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ORIGINAL COMMUNICATIONS.

Malaria not the Cause of Fever. By S. LITTELL, M. D., Surgeon to Wills Hospital for Diseases of the Eye and Limb.

Mr. Editor,—In an article on the Etiology of Disease, published in a former number of the Examiner,* I intimated my belief that a part far too prominent and exclusive had been assigned to the agency of malarious exhalations, and briefly adverted to a few of the facts which had led me to the adoption of that opinion. I stated that the complaints supposed to be thus engendered, prevail at a period when electrical fluctuations are greatest, and the body debilitated and otherwise disordered by the protracted heat of summer, is most sensible to their impression; that they are often observed where there is no reason to suspect the operation of malaria; are notoriously reproduced by other causes after they have once occurred; and are promptly cured by means which eliminate no poison, but merely restore the lost tone of the system,—frequently indeed, by mental impressions alone. Convinced that the hypothesis, notwithstanding its general adoption, is unfounded in fact, and injurious in its influence on medical practice, I beg leave to offer a few additional considerations in support of the view which I have taken.

Were it true that intermittent and remittent fevers owe their

* July, 1854.

origin to paludal exhalations, or to malaria however generated, we should naturally expect to find them most prevalent when vegetable decomposition was greatest; but a moment's reflection will show that this is not so. In the Middle and Western States, and perhaps throughout our country, September is the sickliest of the autumnal months, and yet vegetable life still flourishes, often in almost undiminished vigor; the foliage preserves its verdure and freshness, and nature exhibits few symptoms of her approaching decay. The days, moreover, have become considerably shorter, the weather cooler, and it is evident therefore, not only that material for decomposition is not supplied in greater abundance, but that the causes which concur in that process are really less active than they were in the preceding months. Those seasons also which are characterized by an unusually late fall, vegetation being fostered by timely rains and long unchecked by frost, are precisely those in which autumnal fevers prevail more extensively, though of a milder type than under other circumstances. The year which has just passed may be adduced in illustration. Summer and autumn were both marked by cool, wet, and variable weather; the country perhaps never preserved its freshness to so late a period; and yet intermittent and remittent fevers were more than ordinarily frequent, not only in localities where they are usually met with, but also on elevated grounds celebrated for their salubrity, and even in the very heart of the city. Circumstances like these cannot be accounted for on the theory of malarious exhalation, but receive an easy solution from the agency of humidity in giving effect to electrical changes.

A striking instance of a district in which every circumstance of climate, soil, and atmosphere might be supposed to unite in the production on a grand scale of paludal exhalation, is mentioned by Dr. Hooker, in his Himalayan Journals.* The delta of the Soormah extends for a distance of eighty miles along the old bed of the Burrampooter, a river five miles broad, and forms an immense still and narrow sheet of deep clear water, called the Jheels. The area drained by the Soormah is scarcely raised above the level of the sea, and contains about ten thousand square miles. In the dry season the Jheels are marshy, but

* Vol. 2, p. 263.

during the rains, which are excessive on the neighboring mountains, they are entirely overflown; the water rising to within a few inches of the huts, which are built along the branches of the rivers which traverse it. The soil, sandy along the Burrampooter, is more muddy and clayey in the centre of the Jheels, with immense accumulations of vegetable matter in the marshes, consisting chiefly of decomposed grass roots and leaves. "The climate of Chattuc (one of the villages) is excessively damp and hot throughout the year, but though sunk amid interminable swamps, the place is perfectly healthy. Such, indeed, is the character of the climate throughout the Jheels, where fever and ague are rare; and though no situations can appear more malarious than Silpat and Cachar, they are in fact eminently salubrious. These facts admit of no explanation in the present state of our knowledge of endemic diseases. Much may be attributed to the great amount and purity of the water, the equability of the climate, the absence of forests, and of sudden changes from wet to dry; but such facts afford no satisfactory explanation." Undoubtedly they do not, on the supposition that malaria is necessarily concerned in the production of such complaints; but discard that hypothesis, and they receive obvious elucidation on the theory of their electrical origin. Humidity alone, when universal and constant, tends to preserve the electrical equilibrium, and the great extent of their surface gives to the Jheels the character of an inland sea; the circumstances mentioned by Dr. Hooker must render electrical vicissitudes slight and infrequent, and hence their exemption from the so-called miasmatic diseases.

There is no circumstance, indeed, connected with our autumnal fevers—their occasional epidemic prevalence, the influence of moisture, the comparative exemption of large cities, the agency of winds &c. &c.,—which cannot be more scientifically explained on the electrical, than on the miasmatic hypothesis; and the former has the additional advantage of substituting an adequate, existing, and recognizable cause, for one which rests on no certain foundation, eludes all chemical scrutiny, and is to a great extent, if not altogether, imaginary.

For the modus operandi of this principle in the production of disease generally, of which it is a prolific proximate cause, I may be permitted to refer to the paper to which allusion has just

been made; but it may not be superfluous to unfold in few words the rationale of its action in the present instance.

Besides the effect of heat in rarifying the atmosphere, and thus diminishing the absolute quantity of oxygen inhaled, it excites the brain, and through it the other organs, to increased action; which, when the stimulus is withdrawn, if not before, is followed by corresponding nervous exhaustion. This increased action may terminate in vascular irritation and inflammation, inducing diarrhœa, cholera, dysentery, yellow fever, &c. &c., or may leave the system in a state of mere general debility, with little more than a tendency to congestion, chiefly of the portal circle. In this condition of increased susceptibility and diminished power, electrical variations, which would have little influence in a vigorous state of health, become a frequent and potential cause of disease, and their operation is promoted by various meteorological circumstances, as cold, moisture, &c. The cerebral functions are impaired, innervation is lessened, vascular congestion takes place, and, reaction following, the usual febrile phenomena are developed, which assume an intermittent, remittent, or typhoid form, according to the intensity of the cause, or the degree of the pre-existing debility.

The objection to this view, that disturbances of the electrical equilibrium are of constant occurrence without being followed by such effects as are here attributed to them, is more specious than sound. It fails in not appreciating the consequences of the protracted heat of summer, which exhausting the nervous energy, leaves the system, in the early autumnal months, weak, susceptible, and predisposed to disease; and it is, moreover, not altogether true in fact, for intermittent and remittent fevers are observed, though of course much less frequently, at other seasons of the year. As winter approaches, the invigorating influence of cold is felt in the increase of nervous power; oxygen is breathed in greater abundance with a denser atmosphere; reaction follows the previous depression; and the predisposition changes to other forms of morbid action. It is to this circumstance, and not to the destruction by frost of malarious exhalation, that the cessation of our autumnal fevers should be ascribed. The grateful impression and remedial agency of cold artificially applied, in almost all febrile conditions, is matter of common observation.

By Dr. Currie, of Liverpool, the effusion of cold water was employed with signal success in the treatment of scarlet fever, and I was informed by the late Dr. Littell, of Ohio, that in an epidemic dysentery of unusual severity which prevailed in his neighborhood, he resorted to the same means, with similar restrictions, and with the most gratifying results.

I do not deny that the foul emanations arising from the decomposition of animal and vegetable matter, which vitiate the atmosphere of our large cities, are a concurrent cause of disease. They are often present in a degree sensibly offensive, and cannot be otherwise than extremely prejudicial to health. Such vitiation, and the impression of excessive and long continued heat—the latter being absolutely necessary to its production—are powerful predisposing causes of yellow fever, and only require an atmosphere negatively electrical to give full effect to their deleterious agency. The increased conducting property of the air when loaded with moisture, accounts for the first appearance of the disease in the immediate vicinity of the rivers, or of the sea, upon which places subject to it are situated.* Yellow fever, as I have elsewhere observed, is an inflammatory affection which expends its force generally and principally on the stomach and collatitious viscera, but may be complicated also with inflammation of other parts predisposed to increased action. It runs its course with great rapidity, and derives its fatality both from its involving vital organs, and from its being engrafted upon an exhausted state of the system. My personal experience of the malady has not been very extensive, but I well recollect one case, occurring many years ago in a tropical climate, which was arrested in limine by venesection to the extent of fifty ounces. Early and copious depletion by the lancet, to reduce vascular excitement and change the character of the circulating fluid; calomel in large and frequently repeated doses, to relieve visceral congestion; and, these objects accomplished, or in progress, the liberal exhibition of quinine, to restore impaired nervous power

* In the cholera which prevailed at Columbia in the summer of 1854, the wind blew for several days in a particular direction, wafting over the town the air of a marsh saturated with moisture and impregnated with animal effluvia. This disease everywhere evinces a preference for the great water-courses of a country.

and impart tone to the extreme vessels; is the practice which, guided by a discriminating judgment, would follow by rational deduction from the theoretical opinions which I have advocated. Bleeding, however, to be safe and effectual should be employed in its incipient stage; the delay of a few hours would probably make all the difference between life and death.

It is with no little satisfaction that I have lately seen these speculative notions fully confirmed, with singular coincidence of sentiment, in the practice of Dr. Thomas Neilson, of Trinidad. During a residence of more than forty years on that Island, Dr. N. has witnessed no less than six epidemics of yellow fever, and the following extracts from a statement published by him in the Dublin Tablet, for which I am indebted to the Inquirer of this city, can hardly be further abridged without impairing the impression it is calculated to make. He states as his opinion,

"That it is a fever of inflammatory type, running its course from twenty-four to seventy-hours, and it is not contagious, but depending upon a vitiated state of the atmosphere, it being in a negative state of electricity—that is to say, deficient in oxygen.

"On the 25th June, 1853, W. Purdie, Esq., botanist, a native of Scotland, residing at St. Ann's, aged 33, of a sanguineous temperament, sent for me at five, A. M., to see him, being taken ill during the night with severe headache, pain over the epigastric region and over the eyeballs, as also of the calves of the legs, with inclination to vomit. He had thirst, pulse upwards of 100; the tongue white and slimy. I bled him to forty ounces, when he fainted and broke out into a profuse perspiration; the blood of a tarry black color. I gave him ten grains of calomel mixed with sugar, and ordered five grains every two hours, to be given until my return at 10 A. M., at which period all his pains had returned in an aggravated form. I removed the bandage from his arm, and bled him to about 24 ounces, when he fainted again and perspired profusely. All the symptoms were alleviated during the day. The calomel did not act as I expected. At 5 P. M., when I returned, I ordered one drop of croton oil on sugar every hour until it acted. He took nothing during the night but thin sago from time to time. He passed a restless night, and at 6 P. M. of the 26th he complained of severe pain over the eyebrows, his skin dry and hot, his pulse upwards of ninety. As the calomel had not acted I then removed the bandage from his arm, and took twelve ounces of blood, when its appearance became more florid, and he fainted, and was bathed in perspiration, his pulse falling to 76; his skin became moist, no thirst, his liver acting, he taking from time to time a little thin sago. He slept that night, and was convalescent on the following morning, when I ordered him twelve grains of sulph. quinine, with ten grains Gregory's powder twice that day, giving orders that no animal food for five days to come should be given

him. Five days from the day he was thus taken ill he left St. Ann's for one of the Five Islands, for change of air, and returned to St. Ann's ten days after, in perfect health.

On the 13th July, 1853, I was sent for to see his Excellency the Right Hon. Lord Harris,* who was taken ill during the night with fever, severe headache, and inclination to vomit, and pains all over him, his pulse upwards of 100. He was of a lymphatic temperament, a native of England, aged 44. I bled him when I saw him until he fainted. I gave him ten grains of calomel, with white sugar mixed; ordered nothing but thin sago or tous-les mois. At 10 A. M. I returned, found the headache returned, and the other symptoms in a very severe and aggravated form. He being governor of the colony I did not like to bear the entire responsibility, and requested his father-in-law, the Venerable Archdeacon Cummins, to call in Dr. Van Buren in attendance with me upon him. His symptoms becoming aggravated, we bled him to sixteen ounces, when he fainted; repeated the calomel, and ordered nothing but iced tous-les-mois or sago. During the night, his fever returning, we bled him every third hour, taking from three to five ounces of blood at each period, which broke the spasm, and he fainted; we gave him five grains of calomel with sugar every four hours. On the 14th his fever returned, and he was bled again from the arm to eight ounces, when he fainted, and perspired profusely. His medicine acted, and on the following morning he was convalescent. He then took during the day twelve grains of quinine, mixed with 24 grains Gregory's powder, in three doses, taking nothing during the period but thin sago or arrow-root."

Several other cases are related in detail. The whole number of patients under his care at St. Ann's, the residence of the Governor, was twenty-six, and in every instance he pursued, with slight variation, and uniform success, the same treatment. The following is the conclusion of the article.

"*I beg leave further to observe that any medical man using his lancet to take a certain quantity of blood without causing deliquium, or breaking the spasm upon the cutaneous vessels, I am of opinion he may as well shoot his patient, as it will run its course more rapidly and effectively.* He will see black vomit set in early from the attack.

"N. B.—An unfortunate circumstance for many families took place. The home government sent out Doctor Hector Gavin, as Health Inspector, to teach the resident preatitioners how to treat yellow fever and cholera, and he so intimidated the junior practitioners from the use of the lancet *that nearly all their cases proved fatal.*

"In any case where black vomit had set in I put my trust in lime water, two table-spoonfuls to a quart of milk, to be drunk at pleasure, from which some cases have recovered; nothing else should be allowed. When the Fahrenheit thermometer ascends to 92 or 94 in the shade, with

* Governor of Madras.

the wind blowing west by north, and charged with moisture, you will have sporadic cases of yellow fever, with bilious remittent fevers, occurring frequently."

The testimony of his complete success, says the *Tablet*, is placed beyond all question by the following public address. Among the names we readily distinguish the most eminent of the Catholic and Episcopalian Clergy—the Rev. T. L. Richards, Protestant Rector of Port of Spain; the Very Rev. Thos. Smith, nephew of the late and ever-to-be-lamented Catholic Archbishop Smith, and others not forgotten in Maynooth. It is signed by the professions and leading merchants of the island, and those who desired to express gratitude for the preservation of their lives:

"TO THOMAS NEILSON, ESQ., M. D.

"*Trinidad, Jan.* 1*st*, 1855.

"We, the undersigned residents in Richmond and the other streets in Port of Spain, which were, during the prevailing late dreadful epidemic, entrusted to your professional care and supervision, desire to convey to you the expression of our grateful thanks for the deep interest which you continually evinced in our welfare. Not only do we willingly bear testimony to the *efficient manner in which you performed your important duties towards* all classes of persons, but we desire also to record our sense of gratitude for your many acts of liberality most generously exercised towards those who stood in need of assistance. In conveying to you these acknowledgments, we earnestly pray Almighty God that your valuable services may never again be required, either in this island or elsewhere, to check the violence of so dreadful a pestilence."

(Signed.)

A casual expression of Dr. Neilson, in the extract quoted above, would seem to intimate his belief in the identity of oxygen and electricity; an opinion certainly not warranted in the present development of chemical science. There is no doubt, however, that, from the rarefaction of the atmosphere, a smaller quantity of the former is taken into the lungs; in consequence of which the blood does not undergo due aeration, and all the organs suffer in a greater or less degree. Another efficacious source of exhaustion and irritation is the direct action upon the system, of excessive and protracted heat; and these causes thus combined, may, of themselves, give rise to various morbid phenomena. In this state of things, fluctuations in the quantity of an element which pervades all nature, and is strikingly analogous to, if not identical with, the nervous energy or force, cannot fail to have a very powerful influence over the cerebral functions. That they actually do exert a sensible power even in a state of health, exalting or depressing vitality, according as the electricity is in excess or otherwise, is matter of common experience and observa-

tion ; but in an exhausted condition of the nervous force the injurious impression resulting from the deficiency of that fluid, must necessarily be far more considerable; giving rise, with the auxiliary agencies just mentioned, to intermittent, remittent, bilious, and yellow fever ; and under predispositions induced by different meteorological states and combinations, to other maladies of epidemic prevalence, as well as to neuralgia, rheumatism, the phlegmasiæ, and various sporadic affections.

The subject open a wide field for pathological investigation, and will require on very many topics, a reconstruction of medical sentiment. Several complaints now attributed to contagion will be seen to spring from a cause which no isolation could evade ; demonstrating thus the inutility and folly, as well as the mischief of quarantine regulations. Not only malaria, but vaccination, except, in so far as it operates as an amulet,—inspiring confidence, and thereby preventing the depressing influence of fear*—and various other widely-adopted and long-cherished opinions, are destined to fall before the more rational theory which it involves ; while it cannot fail to exercise also a beneficial effect upon practice, in making the preservation and restoration of nervous energy a prominent object of regard, both in health and disease.

In the late expedition up the Niger, a river so often fatal to previous explorers, the health of the crew was preserved in a remarkable manner by the exhibition of quinine, morning and evening, with other hygienic precautions. Tonics are well known to act as preventives of our common autumnal fevers ; and it is worthy of experiment, whether this, or some article of similar cerebral impression, would not be found equally effectual as a prophylactic of yellow fever, and of other complaints, to the attacks of which physical debility or exhaustion has always been observed to give a strong predisposition. Whatever sustains and exalts the nervous power, must necessarily tend to avert disease, whether occurring sporadically or as an epidemic.

Philadelphia, December, 1855.

*It may be proper to say that in a matter like this, where human life and safety are concerned, I should think myself culpable in acting upon views opposed to those of the whole body of the Profession ; and therefore, notwithstanding my infidelity, continue to vaccinate with all the care of the most orthodox believer.

LETTER FROM PARIS.

* * * * *Paris, Nov. 19th,* 1855.

My knowledge, as yet, of the Parisian Hospitals, is necessarily very superficial, as I have only visited them during the past week. Last Monday, most of the regular hospital clinics commenced, and to-day the first introductory of the course of lectures at the school of Medicine was delivered. During the time above alluded to, I have visited Hôpital St. Louis, famous for the treatment of skin diseases; Hôpital des Enfants Malades, or sick children's Hospital; Hotel Dieu, a large general hospital, perhaps the oldest in Europe; Hôpital Necker, where Civiale, the celebrated inventor of the lithotriteur, lectures, and Hôpital Clinique de la Faculté de Medecine, for surgical cases and midwifery.

In the commencement of a course of clinical attendance in a foreign country, no matter how well one may understand the language of that country in a general sense, one necessarily loses a great deal of what is said by the lecturer, in consequence of the peculiar form of idiomatic and technical language employed by him. Although I can read French pretty well, and speak it so as to answer all the purposes in which I find it necessary in ordinary daily life, still, when I listen to a lecture I find very great difficulty in following the person who speaks, so as to understand his entire meaning. This is of course only to be overcome by time and close attention. If the words pronounced by the speaker were given me in a book, I could read them without any difficulty; but as they come from the mouth of a Frenchman, they are so much blended together and curtailed of their syllabic sounds that one cannot tell where one word ends and another begins. This is to me, now, one of the greatest difficulties in the French language. The opportunities of studying French in Paris are much more limited than for acquiring a knowledge of English with us, or in England. A French boarding house is anything but a family residence. Every one in it, is totally independent of every other person, and one may live in a house for months without knowing the name of his next door neighbor, if he so wishes. There is no family table where all talk over the news of the day, and no family fireside where, as in

our boarding houses, all the boarders may meet together of an evening, and where a foreigner may every day have a fine opportunity of improving himself in the language of the country. If one wants to talk, he must go and visit his friends, and as these are almost necessarily those who speak his own language, there is little progress made in the French. Most persons who come to Paris and desire to learn the language take French lessons, which is very little more than can be done at home. They talk to the French teacher for an hour a day, and flatter themselves that they are making rapid progress, because he or she, as it may be, tells them so, as a matter of politeness. The next thing is to try their powers of conversation with the concierge or door keeper, who being generally an uneducated person, speaks a patois not desirable to be learned by the pupil. After this, if the student is a medical man, he buys some medical books and reads them, and trys to hear and understand the lectures at the hospitals and school of medicine. About the time he is to go home, he begins to understand what the lecturers say and to profit by their teaching; but his money is all gone, and he cannot stay any longer, so buying a box of the newest medical publications and some instruments he takes passage for home, and says very little about this the dark side of the picture.

This is the history of many of the students who come here from other countries: but there are exceptions. One who comes here with a good knowledge of French may learn much, particularly if he has been in the habit of reading French medical books. His only difficulty at first, is the catching of the sounds as they come from the mouth of the speaker, but this he will soon overcome. Bedside instruction in Paris is the most profitable and fortunately the most easily understood by the student. The lectures are very little attended by graduates in medicine, unless it be those delivered in the amphitheatres of the hospitals, which are generally followed by surgical operations.

The hospitals of Paris are very clean, and though not very well ventilated are much better than some of our institutions at home in this respect. The best heated and ventilated hospital is said to be the Lariboisiére, erected last year. I have not yet seen it, but hope to pay it a visit in a few days. It is very far from where I live. The hospitals of Paris are all connected with

one general office, which supplies funds, &c., and to which all applications are made for admittance, &c. &c. The different wards of the hospitals are named after the various favorite Roman Catholic saints, and the nurses or chiefs of the wards are Sisters of Charity, who I must say are the best I have ever seen. Being generally well educated and intelligent, and not being at all influenced by pecuniary motives, they carry out the designs of the institutions committed to their care with a good will that money will not procure with us. The architecture of the Parisian hospitals is not in the least ornamental, except in one or two instances; in fact the buildings present in many respects rather an unsightly appearance from the street side. They generally have quite extensive grounds connected with them, and some of them are built in the form of a hollow square, having a garden in the centre and all around the building, except on the side next to the entrance. The most extensive grounds and the best kept of any of the institutions I have yet seen, belong to the children's hospital. This hospital is to me the most interesting in Paris. It contains 600 beds, and provision is made for both surgical and medical patients. In the yard is a fine gymnasium, and at present they are building a handsome stone chapel to take the place of one in the main hospital, which will be then changed into a ward for patients. The physicians and surgeon visit the little ones every morning at eight o'clock, and on Thursday Dr. Guersant lectures in the amphitheatre at nine, and performs such operations as may be found necessary. He is a man of medium height, rather stout, of pleasant manners, and a good lecturer. He operated last week for double hare-lip on an infant twelve days old, and upon a little boy of five or six for prolapsus ani. The latter by the actual cautery. At present there are in the house a number of children suffering from scrofula in its various forms, as there will always be in children's hospitals. Some four or five amputations were doing very well, which had been performed for disease of the knee joint. There were several cases of coxalgia, but most of them were in the suppurative stage of the disease. In the medical wards there are at present many cases of disease resulting from cold; such as croup, pneumonia, pleuritis, bronchitis, &c. &c. One little fellow had been operated on by tracheotomy and appeared to be doing very well. Chloro-

form is used in the operations of this establishment, and is employed also when, in disease of the eye, an application cannot be properly made, or a sight of the inflamed ball obtained under ordinary examination.

The Hotel Dieu, being a general hospital and having nearly nine hundred beds, is very much visited by medical students connected with the school of medicine. It is not as good a school as our hospital, as the instruction given is much more superficial. As the physicians go to the hospitals every day, they do not say much about a patient except the first time of visiting him; and as the examinations are made in the consultation room before the patient enters, the students have but little opportunity of studying what is to them very important, the commencing examination and treatment of the cases. In the diagnosis of the symptoms which present themselves in the course of disease, they have a good chance of gaining instruction, but in the treatment, we are much better physicians than the French, and have as a general rule little to learn from them which would not be better learned at home. In diagnosis they are ahead of the rest of the world, and perhaps also in dietetics. They are capital theorists, but everything must give way to theory when it comes to practice, and in this way they fail of becoming good practitioners. They establish first a theory, and then adapt the practice to this theory, without allowing the practice to prove the truth or falsity of the theory.

In the Hôpital Clinique, there are a number of cases of midwifery under the care of Dr. Dubois, accoucheur to the Empress. He is an able physician, and his bedside lectures are valuable. I have seen him but once, and remarked his extreme closeness of attention to any little matters which might indicate diseased tendency or action in his patients. Very few of his cases had anything remarkable about them. One was threatened with metritis, though the symptoms were not well developed. This is the only obstetric hospital where male students can attend in Paris. In Vienna the school is very superior in this respect, as it is also in Dublin. In the former they have a hospital of eight thousand cases per annum, and in the latter of two thousand.

Yours, ROBERT P. HARRIS, M. D.

THE DEW POINT.

CENTRAL HIGH SCHOOL, *Philadelphia, Dec. 8th,* 1855.

Mr. Editor:—In answer to your inquiry in regard to the different means of observing and calculating the Dew Point, I would reply, that many instruments have been invented, by which the moisture existing in the atmosphere may be determined, as well as the reduction of temperature which will cause this moisture to be deposited upon any cold substance. The precise degree of temperature at which this deposition takes place, is called the dew point. The best instruments for indicating the dew point directly, are the hygrometers of Daniel, Regnault, and Bache. The two former, however, of these instruments have the defect of causing a great expense of ether, and not showing any deposition whatever, when the weather is very dry. *Bache's hygrometer* is more convenient, the requisite degree of coolness being produced by covering one end of a polished tube with pounded ice, or snow mixed with salt; while the temperature indicated by a very sensitive thermometer, placed at that part of the tube at which the moisture begins to precipitate, will be the dew point. The disadvantage attending the use of this instroment is, that it requires from twenty minutes to half an hour to make an observation; and in cold weather it is very difficult to obtain any indication of precipitation. *August's Psychrometer* is far preferable, and in all probability, will soon supersede all other *hygrometric* instruments, on account of its simplicity, and the facility with which it may be observed, and transported from place to place. It consists of two very sensitive thermometers, attached or freely suspended to the same frame; of the two bulbs, one is covered with a thin muslin or linen rag, and the other is left free. On moistening the rag, an evaporation takes place, which is more rapid in proportion as the degree of moisture in the air is small, or is farther removed from the point of saturation. This evaporation reduces the temperature of the covered bulb; so that from the difference of temperature indicated by the two thermometers, we may draw a conclusion in regard to the condition of moisture in the atmosphere. This instrument may be used when the temperature is below the freezing point, by covering one of the bulbs with a thin layer of ice. Sometimes, instead of dipping the covered bulb into water

before every observation, it is kept constantly wet by the rag reaching down an inch or two, and dipping into a small vessel of water; or sometimes a fountain is attached to the frame, like a common bird-cage fountain, into the open part of which the rag is dipped. It will thus keep constantly wet so long as there is any water in the fountain. Thus arranged, it is known as the *wet-bulb hygrometer*, or as *Mason's hygrometer*. This instrument, it will be perceived, does not give the dew point itself, but the point of greatest density; that is, the temperature at which the external air is so saturated with watery vapor, as to be incapable of taking up an additional amount, without condensation occurring with a further reduction. By the use of certain tables or formulæ, we may find the dew point from the indications of the psychometer. Unfortunately with this instrument, in its most convenient form, that of *Mason's hygrometer*, as sold by instrument makers generally, there is a printed table of instructions given, which professes to explain the method of finding the dew point, but which is very nearly right only for a temperature of about 40°. Below this point and above it, the results are far from correct.

The difficulties attending the exact determination of the dew point, and the fact, that when it is ascertained, it is in itself useless as a means of comparison, unless we are also acquainted with the temperature of the atmosphere at the same time, are gradually leading meteorologists to dispense with its observation or calculation altogether, and to substitute for it, the *force of vapor*, existing in the atmosphere, and the *relative humidity*, or the per centage of moisture when compared with complete saturation, both of which may be easily and accurately obtained from the indications of the *wet-bulb hygrometer*. When the first of these is ascertained, the dew point may be found from it at any time, as will appear hereafter.

Now, the greatest quantity of watery vapor that can exist in the atmosphere, at any particular temperature; and the corresponding *maximum tension* or *force*, or *pressure* which this quantity of vapor exerts upon a column of mercury, subject to the average atmospheric pressure, have been very accurately determined by experiments and observations often repeated and tested. From these experiments, it appears, that at the boiling point of water, 212°, the maximum tension of its vapor is equa

to the atmospheric pressure, at the time and place of observation, and at the same time and place, the *maximum quantity* of vapor that can exist in one cubic foot of the atmosphere, is 256⅓ grains. In the same manner, the *maximum tension* and *quantity* of vapor, were ascertained by Dalton for every degree, and arranged in a table, for convenience of use and calculation. This table was afterwards corrected and extended, so as to give the tension and quantity of vapor for every degree, from — 31° to + 35° centigrade, by August of Berlin, and a formula constructed, by which the elastic tension or force of aqueous vapor, existing in the air at the time of observation might be calculated from it, and the indications of a psychrometer. In 1845, M. Regnault, in his *Etudes sur l'Hygrométrie*, published in the *Annales de Chimie et de Physique*, volume xv. of the 3d series, reviewed and corrected the tables given by Dalton and August, and also, by comparative experiments, slightly modified August's formulæ, reducing them to the values given in the September No. of the Examiner, in which Fahrenheit's degrees of temperature have been substituted for those of the centigrade thermometer, and English inches for millimetres.

The table of the *maximum tension* or *elastic force* of *acqueous vapor*, so far as it is necessary for meteorological calculations, as given by Regnault, but changed into the scale of Fahrenheit's thermometer and English inches, is given below, for whole degrees. For the fractions of degrees, the mean values may be adopted.

Table of the Maximum Force of Vapor of Water.

Temp. Fah.	Force of Vapor.	Temp. Fah.	Force of Vapor.	Temp. Fah.	Force of Vapor.	Temp. Fah.	Force of Vapor.	Temp. Fah.	Force of Vapor.
°	Inches.	°	Inches.	°	Inches.	°	Inches.	°	Inches.
1	0.0453	21	0.1128	41	0.2572	61	0.5367	81	1.0572
2	0.0473	22	0.1178	42	0.2672	62	0.5560	82	1.0922
3	0.0495	23	0.1233	43	0.2776	63	0.5758	83	1.1281
4	0.0520	24	0 1288	44	0.2884	64	0.5962	84	1.1651
5	0.0545	25	0.1346	45	0.2994	65	0.6174	85	1.2030
6	0.0570	26	0.1406	46	0.3109	66	0.6391	86	1.2421
7	0.0595	27	0.1466	47	0.3228	67	0.6616	87	1.2822
8	0.0623	28	0.1531	48	0.3351	68	0.6847	88	1 3235
9	0.0653	29	0.1596	49	0.3477	69	0.7085	89	1.3661
10	0.0683	30	0.1666	50	0.3608	70	0.7331	90	1.4096
11	0.0713	31	0.1736	51	0.3743	71	0.7585	91	1.4545
12	0.0747	32	0.1811	52	0.3883	72	0.7845	92	1.5006
13	0.0782	33	0.1884	53	0.4028	73	0.8114	93	1.5480
14	0.0818	34	0.1960	54	0.4177	74	0.8390	94	1.5967
15	0.0858	35	0.2040	55	0.4331	75	0.8676	95	1.6468
16	0.0898	36	0.2120	56	0.4491	76	0.8968	96	1.6981
17	0.0940	37	0.2205	57	0.4655	77	0.9272	97	1.7509
18	0.0985	38	0.2292	58	0.4824	78	0.9583	98	1.8051
19	0.1030	39	0.2382	59	0.4999	79	0.9903	99	1.8606
20	0.1078	40	0.2476	60	0.5180	80	1.0233	100	1.9178

The method of obtaining the *force of vapor* (f) at any time existing in the atmosphere, was fully explained in the Medical Examiner for September, 1855, and therefore need not be here repeated. It must suffice for the present to say a few words about the method of calculating the *Relative Humidity* and the *Dew Point.*

By *absolute moisture or humidity* we understand the quantity of water existing in the atmosphere in the state of vapor; while by *relative humidity*, we mean the fraction which the *absolute moisture* existing, constitutes when compared with the maximum quantity, or the quantity necessary for saturation at the existing temperature. For example, a *relative humidity* of 0.45 means that the atmosphere contains $\frac{45}{100}$ of the quantity of vapor, which, at the temperature in question, would constitute saturation. Now the relative humidity is calculated by dividing the force of vapor existing in the air, as found by the formulæ above referred to, and before fully explained, by the maximum force of vapor for the temperature of the atmosphere. Thus, suppose the *dry bulb* of the psychrometer indicates 58°, at the same time that the *wet bulb* thermometer is found to mark 54°. Then by the formula

$$f = f' - \frac{0.480\ (t-t')}{1130-t'} h.$$

and making (h) the height of the barometer 29.92, its mean height at Philadelphia, we find that the force of vapor (f) = 0.3643; then dividing this by the maximum force of vapor for 58°, which, by the table on the preceding page, is seen to be 0.4824, we will have 0.755 for the relative humidity, showing that the air conains $\frac{75}{100}$ or $\frac{755}{1000}$ of the quantity of vapor which at the same temperature, 58°, would be necessay to complete saturation.

It is evident from the method of finding the relative humidity just explained, that the force of vapor (f) existing in the air, must be the maximum force for the temperature of the dew point. Therefore, in order to find the dew point corresponding to the indications of the psychrometer before given, that is 58° for the dry bulb, and 54° for the wet bulb, we have only to look in the table of Maximum Force of Vapor for the temperature corresponding to force (f) existing in the atmosphere; or in

other words, the force of vapor existing in the air at the time of observation, is the same as the *Maximum Force of Vapor*, for the temperature of the dew point at the same time. By referring to the table, it will be seen that the temperature at which the force of vapor (0.3643) is the maximum force, is between 50 and 51 degrees, or 50.3°, which must consequently be the dew point, when the indications of the psychrometer and barometer are such as we have supposed.

Proceeding in this way, I have re-calculated the dew point for each month from the beginning of my Meteorological Observations, and find it to be as follows, at Philadelphia for 2 P. M.

	1851	1852	1853	1854	1855
January,		30.50	27.02	30.62	28.60
February,		28.30	34.45	31.64	18.76
March,		37.50	31.05	34.93	27.31
April,		37.10	42.86	40.79	40.45
May,		53.20	53.65	53.59	46.08
June,		59.00	63.17	62.92	59.37
July,	65.83	64.50	65.58	68.52	68.66
August,	64.59	62 90	66.95	65.30	64.03
September,	58.41	54.80	60.45	61.24	60.72
October,	50.40	51.60	42.31	50.89	47.02
November,	35.12	35.00	40.92	37.82	39.40
December,	30.61	37.70	28.33	26.56	
Mean annual Dew Point,		46.01	46.40	47.07	

To lessen as much as possible the complicated calculations, which I have explained, I have constructed a table which gives, from the temperature (t') of the wet-bulb thermometer, and the temperature (t) of the dry-bulb or their difference ($t—t'$) the *Force of Vapor* in the atmosphere, the *Relative Humidity* and the *Dew Point*, for every degree of temperature, from—19° to 100°, Fahrenheit, supposing the barometer to remain at the same average stand of 29.92 inches. It is evident that every observer, by calculating such a table for himself, and, substituting in the formula for 29.92 (h) the mean height of the barometric column at his own station, may save considerable time and labor, for when the numbers are once found, they never require to be re-calculated for the same degrees. If it should be deemed necessary to make a correction for the different heights of the barometer, a table may also be constructed for this purpose. This, however, is not necessary for ordinary meteorological purposes.

JAMES A. KIRKPATRICK, A. M.

BIBLIOGRAPHICAL NOTICES.

History of Medicine, from its origin to the nineteenth century, with an appendix, containing a philosophical and historical review of medicine to the present time. By P. V. RENOUARD, M. D. *Translated from the French* by CORNELIUS G. COMEGYS, M. D., Professor of the Institutes of Medicine, Miami Medical College. Cincinnati: Moore, Wilstach, Keys & Co. 1856.

The study of history would little deserve the time and attention bestowed upon it, if it were confined to the bare knowledge of past transactions, and an inquiry into the eras when each of them happened. It concerns us but little to know that there were once such men as Alexander, Cæsar, Aristides and Plato, and that they lived in this or that period; that the empire of the Assyrians made way for that of the Babylonians, and the latter for the Medes and Persians, who were themselves subjected by the Macedonians, as these were afterwards by the Persians.

But it highly concerns us to know by what methods these empires were founded; by what steps they arose to that exalted pitch of grandeur which we so much admire; what it was that constituted their true glory, and what were the causes of their declension and fall; and we shall also do well to study the character and disposition, the talents, virtues, and even vices of those by whom they were governed, and whose good or bad qualities contributed to the grandeur or decay of the States over which they presided.

If, in these few words, we have indicated the true way to study general history, it then follows that the like method should be adopted in the study of special history, and we are convinced that it is the only plan of studying the history of medicine with profit and advantage.

It is not enough to know what system or theory preceded or followed the other, but we must go further, and see how and by whom these were founded; what were the causes of their advance; what the causes of their fall. Thus studied, medical history is of immense value to the student of medicine. We then draw from it such lessons of experience as will enable us

to work out more successfully a nobler future—thus studied we shall also be able to realise the fact that it is as much written for our warning as for our guidance.

With these few introductory remarks, we beg to introduce to our readers M. Renouard's History of Medicine in an English dress. It is not our purpose to make a review of the work, for the space allotted us is altogether inadequate for such an undertaking. What we have to say, therefore, must necessarily be brief and unsatisfactory, but we could not allow so excellent and timely a publication to pass altogether unnoticed.

In 1846 M. Renouard published his *Histoire de Medicine* in 2 vols. In these he left untouched the first half of the present century. He, however, promised at the end of his preface, "to give hereafter, under the title of materials for contemporaneous medical history, a discussion of the theories, discoveries, and improvements that have signalised the first half of the 19th century." This promise he fulfilled in 1850, in a series of letters addressed to the editor of *l' Union Medicale.* These letters very appropriately form an appendix to the work now before us.

M. Renouard divides his subject into three great ages. The first includes the foundation of medical science, and extends from the mythological age to the time of Galen, or the termination of the second century of the Christian era. The second, which he terms the age of transition, includes the time between the end of the second century and the commencement of the fifteenth. The third is the age of renovation, and includes the time from the commencement of the fifteenth century to our own era. These ages he subdivides into periods or epochs. The first is the primitive period, or period of instinct, and ends at the fall of Troy, about twelve centuries before the coming of Christ. The second includes the mystic, or sacred period, and occupies from the fall of Troy to the dispersion of the Pythagoreans, 500 years before Christ. The third is named the philosophical period; it occupies about 180 years, and terminates with the foundation of the schools at Pergamos and Alexandria, 320 years before Christ. This school commenced the anatomical period, which ended with the second century after Christ. It was followed by the Greek period, (the fifth) which continued until the destruction of the Alexandrian library, in 640. Science then

passed over to the Arabians, and the Arabian period commenced, to end with the fourteenth century. With the revival of letters medical science revived, and the erudite period began, which, so soon as the recovery of ancient literature was perfected, ended in the last, or the reformation period, and which includes the seventeenth and eighteenth centuries. Here, as we have already said, his history proper stops.

In taking a panoramic view of medical history, says an able writer, "we find it divided into two great periods, each in one degree the counterpart of the other. The one extends from the Greek origin of the science to the irruption of the Saracenic tribes, and is complete in itself, inasmuch as it comprises the first rise and extinction of medical science in Europe. Just as the knowledge of Asia and of Egypt was extinguished by passing over with empire to the Greeks, so the knowledge of the latter passed over to the victorious Arabians, and Europe sunk into barbaric darkness. This period continued until the age of renovation, which began with the fall of Constantinople, the immigration of learned Greeks into Italy, and the culminating point of Saracenic power in the fourteenth century. The second period is, however, as yet incomplete, inasmuch as the extreme point of development is not yet reached. In all other respects it may be compared with the first. It had this advantage, however, that it commenced on a wider basis than its analogue. The accumulated knowledge from which the science of the first period was developed was imperfect, because the sciential records of the mystic age antecedent to it were confined to an exclusive priesthood and hieroglyphical language, and much, therefore, of Asiatic and Egyptian learning was lost to the Greeks. They began science almost anew, and transmitted their accumulated knowledge to their successors in a living language, and a language most perfect and rich. It was also expounded to them by men of acute and polished minds, who read and spoke the language in which it was written. This was an immense advantage; it was the advantage which the student with a master possesses over the student without a master. Nevertheless, the powers which guided the development of medical science in the two periods, the obstacles which arose, and the methods which

were adopted to overcome them were the same in both."—*Brit. and For. Med. Rev.*

We shall now introduce a few extracts from M. Renouard, showing his plan of procedure in the execution of his task, and the extensive and profound views which he takes of his subject.

"Celebrated physicians," he says, "influence the progress of their science and the value of their art, not by their writings only, but by their oral teachings, character, and conduct. Their lives offer often models for imitation, and sometimes, also, faults and errors to be avoided. Often, too, the early education of a man, and the circumstances in the midst of which he was reared, explain the peculiarity of his genius, and give the key to his successes and reverses. For these reasons I could not neglect entirely some biographical details relative to the most famous physicians, especially when these details had some connection with the general history of the art, or embraced some moral considerations.

"The sciences do not pursue their march isolated from each other, they go hand in hand, and it is rare that their progress is not simultaneous. An exception to this rule, however, presents itself in the history of the human mind in Europe. During the middle ages dialecties and theology are (were) cultivated successfully, while the other branches of human knowledge, and medicine in particular, merely vegetate (vegetated) in deep neglect. But with the fourteenth century, industry, the sciences, and the arts awake (awoke) from their long sleep.

"On the one hand, the civil and political organization of European nations becomes (became) regulated, their material good increases (increased); on the other, the intellectual and moral faculties of individuals are (were) developed, the mind makes (made) efforts freer, bolder, and in a better direction. The historian of medicine would fail, it seems to me, in one of his duties, if he did not now and then give a general view of the state of society. Therefore at the commencement of each of my chronological divisions I give a rapid sketch of the aspect which civilization then presented.

"Another fact extremely remarkable, and of capital interest in the history of medical theories is, that they are all derived more or less directly, from some system of philosophy, so that only an incomplete idea of them could be obtained if the philosophic sources from which they were drawn were unknown. But too much importance must not be attached to these analogies, nor must the value of medical theories be judged by them. It must not be forgotten that a philosophic system might be false as a whole, and yet true in its particular application to medicine. On the other hand, we may, by false logic, deduce an erroneous medical theory from an irreproachable philosophic system. Thus, then, after having indicated the philosophic ideas with which each medical doctrine may seem to be related, we shall judge this in itself, and relative to its practical consequences."—pp. xiv. xv.

With these extracts, we bring our very imperfect notice of

M. Renouard's history to a close. We trust that the book will be extensively read, as we are certain that a careful perusal of it will tend to dispel very erroneous opinions held, both in and out of the profession, on the subject of medical history. It will show, unless we are much mistaken, that the history of our noble calling presents in its progress, from its first dawn to the present time, as brilliant a career as that of any other branch of human learning—not even excepting Astronomy; that it has ever been moulded by the philosophy of the time; and that even in its darkest days it has had within itself sparks of vitality, which only required a better philosophy to enable them to blaze forth in their full glory.

One word more. Much has been said about the uncertainty of medical theories; and the different opinions of those who cultivate medicine are adduced as evidence of the low rank it holds as a science—as if the other branches of learning did not exhibit the very same features. Where, we may ask, is the certainty of the law, or political economy, or the laws which regulate trade? Nay, we may now go further, and ask, where is the *certainty* of religious teaching? Are Theologians as yet agreed among themselves upon the true exposition of many of the dogmas of their holy calling? Let the mass of controversial divinity, imbittered as it is in its every page, with the "*odium theologicum*," answer. Yet *these* have the certain word of God, from which to excogitate their theories, whilst *we* have to deal with the ever-changing phases of vital organism. All learning is uncertain, inasmuch as human reason is fallible, and we readily admit, to this extent, no more, the uncertainty of medicine.

But we strongly object to the argument, that because its followers are as yet agreed on no complete and incontrovertible theory, and because early opinions advanced on imperfect evidence, have yielded, in succession, to more extensive discoveries, therefore nothing certain is known upon the whole subject, and that all medical deductions must be crude, unauthentic and conjectural. We candidly admit that the time has not yet arrived when a perfect theory of medicine can be fixedly and finally established, since we have not yet before us all the facts on which such a theory may eventually be founded; but, in the meanwhile, we have abundant evidence of numerous and indisputable

phenomena, each establishing important and undeniable conclusions; and the aggregate of these conclusions as they accumulate, will form the basis of future theories, each more and more approximating to perfection. Admitting, therefore, that we have yet much to learn, we contend that much sound knowledge has been already acquired, and we protest against the rejection of established parts, because the whole is not yet made perfect.

Dr. Comegys has executed his task very satisfactorily. We have noticed several trifling errors in his translation, the result, no doubt, of too great haste, but on the whole the text reads smoothly, and the author's meaning is clearly rendered. We sincerely trust his labors will meet with the success they so richly deserve.

On Bandaging, and other Operations of Minor Surgery. By F. W. SARGENT, M.D., Member of the College of Physicians; one of the Surgeons to Wills Hospital, &c. &c. *New edition, revised and enlarged, with one hundred and eighty illustrations.* Philadelphia: Blanchard & Lea. 1856.

We are glad to see that another edition of this useful work has been called for. It shows a desire for a kind of knowledge which is too often deemed of no importance. The tendency which exists at present to substitute College Clinics for Hospital Surgery, necessarily sends a great many young men abroad who have never seen a fractured thigh or leg, and of course they are not familiar with the practical details of dressing. It is therefore of great importance to those who have never seen a fractured limb in these walking clinics, to have at their disposal a work like the present to complete, in some measure at least, so necessary a part of their education.

Dr. Sargent's work is the best of the kind, and we can recommend it in the strongest terms to all who may wish to refresh their knowledge of minor surgery.

The first edition, published in 1848, was highly commended by the press in this country and in England. The second edition contains many improvements and additions, which render it still more valuable and more in accordance with the present state of surgery.

In alluding to one of the novelties of the age—the treatment of Fracture of the Patella by adhesive strips—we do not think that the writer has done justice to Dr. Neill, whose paper on this subject was published in the January No., 1854, of this Journal.

After enumerating the various modes of treating this fracture, according to Cooper, Amesbury, Lonsdale, Boyer and others, he states that,

"M. Malgaigne, in his excellent 'Traité des Fractures,' p. 764, states that he has seen M. Gama, Surgeon to the Military Hospital of Val de Grace, treat successfully cases of transverse fracture of the patella, by means of strips of adhesive plaster passed above and below the fracture, in the form of the figure 8, the limb being placed upon the simple inclined plane. And in the Philadelphia Medical Examiner, p. 5, January, 1854, Dr. John Neill reports two cases of this injury in which this method was pursued. It is, undoubtedly, the simplest and the best plan which can be resorted to."

This certainly implies that Dr. Neill merely repeated a well known mode of dressing the fracture, according to the plan of M. Gama, and is, of course, entitled to no credit whatever.

The facts in the case are very different. Although Dr. N. in his paper claimed but little, and even suggested doubts as to its originality to the mind of the reader, by publishing Malgaigne's account of Gama's treatment, as well as Mr. Alcock's account of his use of adhesive strips; nevertheless, any one who has read the paper must admit, even if Neill's and Gama's modes of treatment are the same, that the former is entitled to the credit of originality, if not of priority. For, he expressly states that after treating these two cases, he then investigated the subject and found the statements which he quoted from Malgaigne and Alcock.

If Dr. N. had not published these quotations, we hardly think that he would have been said to have repeated or revived an old mode of treatment. Probably Dr. Sargent's attention was first called to Malgaigne by the quotation made, for the first edition of the Minor Surgery contains no reference to the subject, although published after Malgaigne's work had appeared. Dr. Sargent certainly knew that this treatment had not become general, although he states that "it is undoubtedly the simplest and the best plan which can be resorted to." He probably never saw

or knew of a case treated in this way until Dr. Neill's publication was made, and therefore it is hardly fair to speak of Dr. Neill's paper as a report of "two cases of this injury, in which this method (Gama's) was pursued. The two modes of treatment are however *very different.*

M. Gama applied in the form of a *figure of* 8, *very long strips of adhesive plaster over graduated compresses.*

In the first place, Dr. N. uses no graduated compresses, but applies the plaster to the skin directly above and below the fragments, so as to make the plaster grasp them firmly, which cannot be done if a compress be interposed.

In the next place, Dr. N. does not use long strips applied in the form of a figure of 8. A figure of 8 around the knee is very much like a roller, for although the two rings of the 8 are above and below the patella, they are joined in the hams and compress the parts almost circularly; whereas, in Dr. Neill's dressing, the plaster is made to act as much as possible in the axis of the limb, i. e., the numerous strips applied to the lower fragment are directed upwards upon the thigh as nearly parallel with it as can be effected; and the strips which drag the upper fragment downwards are made to adhere to the leg as nearly parallel to it as possible. This is certainly no figure of 8 bandage, either in its composition or application.

It is possible that Dr. N. has laid himself open to this misinterpretation, by making so very prominent those allusions to other writers which may seem to destroy the originality of his dressing. Our readers, however, can decide that question for themselves.

We trust that the publishers will soon see the present edition exhausted.

Clinical Lectures on Surgery. By M. NELATON. *From notes taken by* WALTER F. ATLEE, M. D.

"Nulla est alia pro certo noscendi via, nisi quam plurimas et morborum, et dissectionum historias, tam aliorum proprias, collectas habere, et inter se comparare."—MORGAGNI *De sed. et caus. morb. lib.* 14.

Philadelphia: J. B. Lippincott & Co. 1855. 8vo. pp. 755.

This is quite a good looking book. It is well printed on excellent paper, and is altogether very respectably got up. Yet it has proved, on several accounts, an embarrassing one to us; and we doubt not that many other readers, with equally good intentions, will find it no less puzzling. The publishers have done their part handsomely, as usual, and the reporter, or compiler, or editor—we hardly know what to call him—gives ample evidence of commendable industry and enterprise in his share of the production; but, with the best disposition towards all the parties interested, we regret that it is impossible to congratulate any of them on the result which is now before us.

As an unauthorized account of another man's occasional lessons, the work belongs to a class which must necessarily be regarded with dissatisfaction in some quarters and with distrust everywhere. It is still more liable to suspicion, however, because it is not only an unauthorized report of extemporaneous hospital lectures, but an unauthorized translation from a foreign language in which these lectures were delivered. Nor is it simply and purely an American version of certain clinical sayings and doings of a distinguished French teacher, for it is filled in with the reporter's own descriptions of the operations performed, and with this latter's observations on the progress and terminations of many of the cases; and it is further enriched from time to time with his "additional" comments on the surgical pathology of some of the diseases which are previously discussed by the Parisian professor.

The preface informs us that the volume

"Contains the publication of notes taken, during a period of three years, 1851–52–53–54, from the remarks he [M. Nélaton] made upon cases to which attention was particularly directed. The course adopted in their arrangement has been, as a general rule, to class under the same head those in which the same pathological lesion existed, though in some few instances, when the great interest of the case lies in the

diagnosis, this plan has been departed from, and the case has been classed with others, from the fact that it was *not* one of them.

"When any remarks have been made, in addition to those of M. Nélaton, they are so placed as to be at once distinguished. This has been done very rarely, in fact almost solely, in order to make the work, as respects surgical pathology, more complete, by stating the results of microscopical investigations. These results have been taken from the works of M. Charles Robin and of M. Lebert."

We can not understand from this preface whether the arrangement spoken of is M. Nélaton's or Dr. Atlee's, and whether the remarks of the former were made at the bed side or in the amphitheatre. From the text it may be inferred that the arrangement belongs to Dr. Atlee, and that the lessons were given sometimes in the wards, but more frequently, perhaps, in the lecture room. Nor is it as easy as he seems to imagine, to distinguish by their "place" the remarks of the commentator from those of his principal. We could discover no sign by which it was safe to recognize them, except what may be afforded in the remarks themselves—a kind of distinction which is not always flattering to the writer and never satisfactory to his reader.

We are not called upon to propose a proper title for such a conglomeration, as by Dr. Atlee's own admission, this book appears to be; but we are bound to say that its present title of Clinical Lectures on Surgery by M. Nélaton is a serious misnomer. No one who examines the different chapters can fail to perceive, what is foreshadowed in the preface, that a great injustice is done not only to an able and deservedly popular European teacher, but to a large number of students and practitioners in this country, who may be induced to secure the offered nondescript interpretation, with its arrangements and accompaniments, as a bonâ fide course of clinical instruction emanating from that teacher.

Although Dr. Atlee's style is not free from gallicisms, and is too often careless and confused, we had sufficient faith in his fidelity and translating competency to have been thankful for his preparation of an unadulterated series of notes of M. Nélaton's cliniques, such as he appears to have taken during their progress, much as we doubt the propriety of such a publication. Nor should we complain of any new grouping of the cases, or of his descriptions of the operations and eventual results, provided it were all done without interfering with the original matter of the notes them-

selves, and so that the extra notes might be clearly distinguished from the rest; but in regard to all surgical pathology not presented by the genuine record, we should vastly prefer, in such a connection, M. Nélaton's own views as given in his different works and papers, to any re-hash of Robin and Lebert and other writers, no matter how authoritative or how well rendered by the commentator.

Notwithstanding these unfortunate drawbacks, however, we have been considerably interested in the clinical histories of which so large and so varied a collection is presented. Many of the cases are trivial and only in the way, others are very meagrely and inconclusively reported; and quite a large number are most provokingly, sometimes absurdly, cut short with the announcement that, either through the withdrawal of the operator, reporter or patient, nothing more was learned of the case.

Still, enough remains of substantially instructive material to make an abundantly large and desirable volume. Without attempting to discuss the principles and practice enunciated in the numerous chapters, or to express any opinion on them, we may note a topic here and there, and shall transfer a few paragraphs to our pages.

The following in relation to a case of malignant pustule of the lower eye-lid conveys a good lesson.

"To say that the swelling, in this case, was considerable, would give no idea of what it really was; the whole of the left side of the face, of the neck, anteriorly and posteriorly, and of the upper half of the chest, was swollen.

"Such a swelling, M. Nélaton said, was not extraordinary, and he related several cases to show this. When a surgeon of the Bureau Central, he was supplying the place of Bérard, at the Hospital, when a *chiffonnier* came to the consultation with his neck enormously swollen: it was thought to be a submaxillary phlegmon, and as the interior of the mouth was very red, it was thought it would open there. This was at 10 o'clock in the morning, and at 3 o'clock in the afternoon he had been sent for to see the patient, who was dying. Going in haste, he found that the swelling had increased, and the signs of asphyxia were so great that the trachea was opened to relieve the difficulty of breathing; in seven or eight hours afterwards the man died. Seeking a reason for the enormous swelling, and examining the beard, the long and neglected beard of a *chiffonnier*, he found a malignant pustule of the most marked character. If he had examined the patient, as he ought to have done, M. Nélaton said, this pustule would have been discovered and cauterized, and the man would have recovered. Upon another occasion, a surgeon

informed him that he had lost a patient, twenty-four hours after his entrance to the hospital, from a panaris. When he went to examine the body, he found upon the wrist a magnificent malignant pustule, and the huge swelling extending from it.

"There is a disease which, at the commencement, is very simple, which belongs, equally with this other, to the charbonnous affections; in it, there is at first only swelling of the eyelids, without pustule. The physician must interrogate, and see if the patient has not been handling animals or animal matters; for, in order to give rise to this disease, it is not necessary that the animal be living, the dead matter preserves its properties. M. Nélaton has seen skins that preserved this property; one, the skin of a hare, after washing and much handling. This form of charbonnous disease was described by M. Bourgeois, a physician of Etampes, who calls it *malignant œdema of the eyelids.*

"In this case, the patient had been cauterized, as was said before, by nitric acid, that had extended itself over the cheek, and a very large destruction of tissue had taken place. It had been applied three times, on three successive days, in place of which the surgeon should have made use of the actual cautery, one good, energetic application of which would have been sufficient. The cauterization here, it was true, had saved the man's life, but it might have been done in a preferable way."—Pp. 39, 40.

A still more important warning may be gathered from the following case.

"December, 1853. A young woman, twenty-seven years of age, a child's nurse, in whom a phlegmonous abscess had spontaneously developed itself in the sub-hyoidean region. A tumefaction there was very apparent, red, œdematous, and yet firm to the touch; the firmness was that peculiar kind of firmness, that resistance to pressure, possessed by certain inflammations of the cellular tissue. This tumefaction extended from the hyoid bone all down the neck as far as the insertions of the sterno-cleido-mastoid muscle. If it had been situated in the subcutaneous cellular tissue, it would not have been thus limited; and besides, the patient had difficulty of respiration.

"It was evident, at once, that it was necessary to open this phlegmon. Chloroform was administered to put the patient under its influence, and the tissues were divided, layer by layer, to the extent of about an inch, in the median line, in the place where the operation of tracheotomy is usually performed. Quite a large quantity of pus came out of the opening, and the patient was notably relieved thereby.

"M. Nélaton said it might be supposed that this patient would soon be cured, but it would not be so; she would be forced to remain a long time in the hospital, to say the least. His reason for saying so was that, upon opening the incision and examining the bottom of the wound, it was seen to pass between the muscles, into the cellular tissue in contact with the trachea. With a probe the peculiar resistance of the cartilaginous rings could be felt, and, in fact, the rings could be seen. Moreover, the probe showed that the cavity formed by the

abscess was very extensive. Now it would be very difficult for these walls to unite, on account of the mobility of the trachea, and the peculiar vitality of the parts situated posteriorly; for if fleshy granulations are easily developed on cellular tissue or on bone, it is not so for fibro-cartilage; they have never been seen to form upon it. It was to be feared, therefore, that the patient would preserve the fistula for a long time.

"Abscesses formed in this situation must be opened early and freely, and in the direction of the greatest *décollement*, or separation of parts; for it is to be feared that the pus will proceed downwards further and further, even into the mediastinum. The danger of this is at once seen, by reflecting upon the anatomy of the region. The only means of preventing this is to make such an incision.

"In making the incision, the tissues should be divided layer by layer, as in the operation for tracheotomy. M. Nélaton related a case to show that the subclavian vein might be opened in these operations, or in operations in this neighborhood. He was sent for once to visit a woman living upon the island of St. Louis (a part of Paris, about one and a half miles from his residence.) She was a corpse when he arrived. The history of the case was, that the patient had a small tumor in the neck, which her physician had persuaded her to have removed; and, in performing the operation, a hemorrhage occurred that could not be arrested. In making an examination of the body, a hole was found in the subclavian vein, into which M. Nélaton passed his fore-finger. The tumor itself was an appendix of the thyroid gland. It is said, moreover, that the brachio-cephalic arterial trunk was once opened by a young student, who was hastening to open the trachea of a friend who was drowned, in order to make artificial respiration.

"The fistulous orifice in the place where the opening had been made in the abscess, was still discharging a small quantity of pus, when the patient left the wards, three weeks after the operation."—Pp. 123, 124.

In a case of abscesses over the sternum the annexed remarks are interesting.

"As an affection of the kind, existing in this instance, might be supposed to be caused by scrofula, several questions were put to the man, in order to learn something about it. He was rather subject to taking cold. Three years before, he had spit blood, but he could give no details, so that it could not be known whether it had proceeded from the lungs or not; no symptoms of any pulmonary affection could then be detected. He had become thinner, it was true, but the affection for which he had entered was quite sufficient to account for this; and, besides, his health was quite good.

"All these particulars were entered into, because an important question was to be decided, namely: Would it be proper to perform an operation for the relief of this patient? The affection was serious, a caries of the sternum, with denudation of the bone, suppuration, and no tendency to cicatrization. The suppuration was quite abundant.

The man was forced to work in order to live, so that, unless something were done to cure him, he must pass his existence in a hospital. The two abscesses then existing would be opened, and the bone could then be well examined, and the extent of the disease decided; perhaps the necrosed portion would be found ready to be eliminated. If a large extent of the sternum were affected, what was to be done? should a part of the sternum be excised? This is an operation of high antiquity; Boyer performed it once, but the surgeons of the present day no longer practise it. In fact, in all the resections of the sternum or of the ribs, that he had witnessed, M. Nélaton said he had always seen the patients die. They were worn out by the suppuration, or perished from putrid infection; for the parts are most unfavorably placed for cicatrization. But, in this instance, it really seemed as if such an operation ought to be performed; for the patient was young, and, without such relief, his condition would be excessively miserable.

"Both the abscesses were opened, but no denuded bone could be found, though the finger was introduced in every direction. The next day, a most careful examination, with a probe, was made with the same result. M. Nélaton, however, said that the not finding any was no decided proof that none existed. The patient continued in the wards, under observation, for about a week, and then left, in about the same condition as when he entered."—Pp. 128, 129.

Again, in relation to fracture of the patella:

"May, 1853. A young man, with a fracture of the patella from direct violence to the front of the knee. There was very considerable effusion into the articulation. The fracture was transverse; the separation of the fragments was but slight.

"After waiting until the swelling of the parts had entirely disappeared, the leg was placed in extension, and then the parts having been previously oiled, *as quickly as possible* bandages soaked in plaster* were applied. The bandages were hard in seven or eight minutes, during which time the fragments of bone were held together by the fingers (previously oiled).

"M. Nélaton said that he had used, several times, the instrument of M. Malgaigne, in order to keep the fragments of the fractured patella together, and that he had never found any of those inconveniences to result from its use, which have been so singularly exaggerated. This instrument is a double tenaculum, one hooked extremity of which is fastened into the tendon above the bone, and the other into the ligament below; by means of a screw, these two extremities can be brought towards each other and then fixed.

"At the expiration of thirty-five days, slight movements of flexion were made at the joint; every day, these movements were increased, and, some time afterward, the patient was allowed to walk. In this case, in all probability, there was bony union between the fragments."
—Pp. 170, 171.

*"The mixture used was composed of equal parts of warm starch and of very dry plaster of Paris. It has the advantage of becoming solid almost instantaneously."

Also, a case of sprain as diagnosticated from a fracture of the fibula.

"December, 1852. A young girl, with signs of violence about the right ankle-joint. She had made a misstep, and twisted the foot. The question was, whether there was a sprain, or a fracture of the fibula. In the first place, there was no deformity, which renders the existence of a fracture evident, in some cases; here, there was only swelling. As regards ecchymosis, it existed on the dorsal surface of the foot, with two points more marked than others; one just below the external malleolus, the other above, along the course of the peroneal muscles. As regards local pain, there was nothing very characteristic; there was no one point where the pain was much more acute than at another. Another means of exploration, of great importance, above all when chloroform is administered to the patient, is the *ballottement* (*shaking about*) of the articulation. The fracture of the lower extremity of the fibula compromises the solidity of the joint, and there is lateral ballottement; the astragalus can be pushed from one side to the other. In order to detect it, the heel must be grasped as near to the articulation as possible, and then, if the muscles be relaxed, there will be ballottement, and even *clapottement* (*splashing*,) in some cases. This is a most excellent sign of this fracture. Again, the malleolus of the tibia appears to become more projecting, when the heel is pressed to the opposite side.

"In this case, there were none of these signs. As, perhaps, they were absent on account of the contraction of the muscles, chloroform was administered, but still they were not to be detected. There was, therefore, no longer any doubt; there was no fracture.

"As to the ecchymosis in this case, it favored the idea of a sprain, being about the heel, below the articulation, where the ligaments are, and above it, along the peroneal muscles. To explain this last point, M. Bonnet, of Lyons, has noticed that when the fibres of the ligaments are torn, some of the fibres of the muscles are ruptured also."—Pp. 180, 181.

The operation for obliteration, by actual cautery, of the lachrymal sac in obstinate fistula, is pretty fully presented in the subjoined extract.

"Here, M. Nélaton said, he was very much inclined to make use of cauterization. This method was used in the most ancient times; but the ancients considered lachrymal tumor to be but a simple ordinary abscess. Fallopius was the first who discovered the lachrymal canal; Galen had seen the lachrymal puncta, but he imagined them to be orifices, through which glands poured a secretion of tears upon the surface of the eye. One century later, Maistre Jean, a Frenchman, first thought of the connection between the pathology of lachrymal fistula and the anatomical structure of that region. Some time after him, Anel used injections in the treatment of these cases, and cauterizations

were abandoned, all the attention of surgeons being directed to the restoration of the natural passages. It is only of late years that the ancient method has been revived again, by Desmarres, Sichel, and others. In old times, the design of the surgeon in performing this cauterization, was to destroy carious bone, by which it was thought that the fistula was maintained; nowadays, however, it is done with the object of producing the obliteration of the lachrymal passages. That which the surgeon did formerly without being aware of it, he does at the present day from design.

"In these cases of fistula lachrymalis, it should be remembered that there are two things, for which the surgeon operates; one is the overflowing of the tears, the other is the pathological condition of the lachrymal sac. It may happen that the canal is permeable, and yet its walls secrete pus.

"M. Desmarres, who has paid great attention to this operation, takes most particular care not to cauterize the skin. He lays bare the sac by an incision, of quite considerable extent, four-fifths of an inch in length, commencing above the tendon of the orbicularis muscle, and dividing it and the skin in a direction from above downward, and from within outward. This being done, the two lips of the wound are separated; this is a delicate step of the operation; the section of the nasal arteries must be avoided as much as possible. The two flaps are held apart by two instruments, a kind of small rake invented for that purpose, and a compress is applied over the eye for its protection. The next step of the operation is the application of the cautery, and to do this well, there are some things with which the surgeon must be acquainted. The lachrymal sac is not globular, as might be supposed, but it extends backwards; there is an *arrière-cavité*, owing to its being bound down in front. The operator should always place himself on the same side as the fistula, so that, on no account, he may turn the point of his instrument towards the eye. It is a good plan, also, to tampon the sac, after it has been opened for fifteen minutes, so as to apply the cautery to a dry surface.

"It has been objected to this operation, that the lachrymal passages being obliterated, the tears must necessarily flow over the cheek. But many cases are recorded, in science, of their obliteration by accidents, without epiphora being the result; and the fact is, that epiphora shows itself very rarely after the cauterization. The eye, no longer irritated by the fistula in its neighborhood, the tears are secreted in less abundance; and it may be that the secretion is diminished by the destruction of these ducts. Moreover, M. Nélaton believes that a great portion of the lachrymal secretion always disappears by evaporation.

"The operation was performed as described above. The next day an erysipelatous inflammation declared itself, which lasted for some days. Notwithstanding this complication, at the expiration of twelve days the wound was almost completely cicatrized; there was no pain, no swelling, and the patient said she was not annoyed by lachrymation; there was no evidence of epiphora. About ten days afterward she left the hospital, believing herself to be cured; and M. Nélaton said that he *thought*

that she was; he evidently, however, had some doubts about it, and asked her to come back at once, if she had any return of the symptoms. He also called the attention of the class to the fact that, by pressing upon the upper lachrymal duct, some mucus issued from the puncture, showing that the obliteration was not complete.

"This patient never returned to the hospital, so that, very probably, the cure was a permanent one."*—Pp. 398, 400.

One more quotation, and we must close without further remark. In relation to bloody tumor of the pelvis, we find the following interesting matter under the head of "Retro-Uterine Hæmatocele."

"December, 1853. A young woman, who had become pregnant fourteen months before her entrance, but aborted without any known cause, at the fifth month. Everything went off very well; she said that, since then, she had suffered from headache; but she mentioned no symptom having anything to do with the affection at present under consideration. She had been for some time very irregular in her menstruation, both as regards time and quantity; for the last four months she had seen nothing, and entered the hospital on account of suffering a great deal at the genital organs.

"The fingers in the vagina encountered the neck of the uterus not very far from the vulva, and carried forwards; it was small, as in women who have had no children, with a small orifice, and flattened antero-posteriorly. Almost directly behind it was a mass, and as the posterior wall of the vagina is soft and flexible, you could, by pressing, appreciate the projection of the tumor. In the hypogastric region was a mass, in which was a depression, like the top of the heart of playing-cards, when movements were given to the tumor in the vagina, they were communicated to the right portion of the tumor, and not to the left. This tumor was evidently not uterine, but was placed against and behind the uterus. It was either a retro-uterine hæmatocele, or a phlegmon of the ovary; it was not an extra-uterine pregnancy, for in such cases the uterus undergoes changes. The consistence of the mass was *pasty*, not evidently fluctuating; it had been rapidly developed, and was regular in form: it was placed behind the uterus, and that organ had its neck thrown forward behind the symphysis; M. Nélaton, therefore, decided it to be a hæmatocele. Moreover, the tumor was observed in a young woman who had trouble in menstruating; and again, there was one more symptom of its being a bloody tumor—there was a bluish tint, a bluish trans-

*"The fact mentioned in the above case, of the flow of mucus from the puncture, is interesting; for Delpech, the celebrated surgeon of Montpellier, who frequently had recourse to obliteration of the lachrymal sac, says that the cases of cure are those in which the action of the caustics is limited to making disappear the inflammation of the lachrymal passages, without producing their obliteration, whilst the unsuccessful cases depend precisely upon the fact of the obliteration being complete."

parency of the vagina covering it; its thin wall permitted the color of the blood to be seen behind it. There was a small irregularity in the position, in this case, that has been observed before, namely, that above, it was not placed behind the uterus, but at the side of it.

"These tumors must be quite common. Four years before, at furthest, one of M. Nélaton's *internes* published some cases, and, soon afterward, all of the surgeons of the Parisian hospitals reported others. There is something strange in the affection; it is never found in the dissecting-rooms. This is owing, however, to the fact, that the affection is but an effusion of blood, and it is gradually absorbed. He referred to the case that had been in the wards some months before, when the affection had been supposed to be an ovarian tumor fallen into the cavity of the pelvis; not thinking this diagnosis to be correct, the patient had been kept in the wards, and at the end of several months there was not a trace of the tumor. This, the absorption of the blood, is one of the modes of termination, and the most happy; at other times, the rectum is perforated; at others, the vagina. These other terminations are sometimes fortunate also; yet they have their dangers, for putrid decomposition has been seen to occur, and some of the patients have died. M. Nélaton has seen one such case in the wards of M. Marotte, and another in those of M. Moreau. On this account, therefore, the danger of putrid infection, M. Nélaton, now-a-days, takes good care not to open the sac; not from what he had seen in his own practice, for all had recovered, but from what he has witnessed in others. The opening should never be made; you can always rely upon the absorption of the mass.

"This patient remained in the wards until the end of January, gradually getting better; she then left the hospital; as the cure would be as well completed at home.

"March, 1854. A young woman entered the wards, and said that, four or five months previously, she had commenced to lose blood in the urine; this hæmaturia, after having lasted for some time, had ceased, and it had been replaced by a loss of blood from the uterus. This uterine hemorrhage was still continuing when she came into the wards.

"Upon examination above the pubis, a pelvic tumor was found, placed behind the uterus, towards the left side. The finger being introduced into the vagina, the tumor could be moved, and felt to be distinct from the uterus; its consistence was peculiar—it was like paste. The neck of the uterus in this patient was directed backward, which is an exception to the general rule in these cases; the cause of it was not known. Just behind the neck, the lower part of a globular mass was distinctly to be felt. M. Nélaton was of opinion that this was one of those *bloody tumors*, and that the proper mode of treatment was temporization.

"M. Nélaton said that, now, his *education was made* as regards these tumors. The first case he had seen, he had sent away as incurable; the second case (it came the same week as the other) he thought about a long time, and at last determined to introduce a trocar; it was either an encephaloid mass, a cyst, or an abscess; if the first, the puncture

could do no harm, for the patient must die; and if a cyst or an abscess it would be emptied. Very much to his astonishment, the introduction of the trocar gave rise to a discharge of a pint of liquid, of the color of molasses. Another case came into his hand soon afterward; a woman who had hemorrhage, and a large tumor having the same position; a trocar was introduced, and the opening afterwards enlarged; two pints of liquid, black and with dark clots, came out. Formidable symptoms followed this opening: the sac inflamed, and the patient's situation was very critical for some time; but she eventually recovered.

"Just at this time, a patient went to M. Malgaigne; he thought it an interstitial fibrous tumor of the uterus. At that time, it was the practice to make incisions and extract these polypi; he, therefore, cut right and left; but when the limits of the neck of the uterus were passed, to his great astonishment, he entered a large sac of blood. This patient died in four days; at the autopsy, the ovary was found projecting, with bleeding points, into the sac. Soon after this case, another came to M. Nélaton, and he opened it, and extracted the contents. Very serious symptoms took place; but after being in great danger, and causing great alarm, she recovered. Seeing the dangers of opening these tumors, he asked himself if these spontaneous effusions would not conduct themselves here as elsewhere. In other parts of the body they are absorbed; and why should they not be absorbed in this situation as well as in any other? Soon afterward, a patient, with a large tumor, came under his care; he waited, and at the end of four and a half months all had gone. Since then, a great number of singular facts have been accumulated. About two years before, a patient had been in the wards—the same whose case is first reported—when most competent surgeons had diagnosed the affection to be either an abscess or an ovarian tumor; M. Nélaton, however, thought it a retro-uterine hæmatocele, and in the course of time all disappeared; he had seen this patient but a few days before, and she was perfectly well. They sometimes terminate in other ways, and spontaneous cure sometimes results from their opening into the vagina and rectum; this spontaneous opening, moreover, is less dangerous than the artificial. In 1837, this affection was described for the first time, and already thirty cases have been reported by the surgeons of Paris.

"After being a few days in the wards, this patient commenced to lose by the vagina a very dark liquid, and while doing so, the tumor notably and proportionately diminished. At the upper part of the vagina was found a perforation, whence the contents of the tumor were discharged. In a few days, the patient felt so well she was unwilling to remain longer in the wards."* Pp. 711–714.

* A discussion on these sanguineous pelvic cysts, in the Medical Society of London, is to be seen in the second volume of *The Lancet,* for 1852, p. 553.

An Introduction to Practical Pharmacy: designed as a Text Book for the Student, and as a Guide to the Physician and Pharmaceutist. With many formulas and prescriptions. By EDWARD PARRISH, Principal of the School of Practical Pharmacy, Philadelphia. *With two hundred and forty-three illustrations.* Philadelphia: Blanchard & Lea. 1856.

It is very seldom that a subject like pharmacy, so entirely practical and necessarily devoid of much originality, can be so treated as to form a book alike valuable for its possession of new and useful information, and for the judicious selection and arrangement of the formulæ and directions required both by the novice and the adept in the daily practice of their profession. We therefore sincerely congratulate the author in having succeeded in producing a work which we think will be found ere long by the side of the U. S. Dispensatory and the U. S. Pharmacopœia, upon the desk of nearly every pharmaceutist in our country. Mr. Parrish states in his preface, that as a teacher of pharmacy, he has "long since experienced the want of a book which should contain the leading facts and principles of the science arranged for study, and with especial reference to those features of the subject which possess a practical interest to the physician." And it is to the medical student at the commencement of his studies to whom we particularly recommend his book, as a most useful guide not only in acquiring a practical knowledge of this study, but also in his subsequent career as a practising physician.

A description of the apparatus and fixtures necessary in the dispensing and compounding room is first given, with numerous engravings, illustrating the various forms of bottles, jars, gallipots, scales, weights, measures, mortars, pill machines, funnels, displacement apparatus, etc.; these form the contents of the first chapter, and contain many details regarding the use and varied forms of the several articles, the value of which will be felt by all who possess any experience on this point. The second chapter contains tables and directions for converting the different systems of weights into each other; tables by Messrs. Durand, Procter and the author, showing the number of drops of various liquids

in a fluid drachm; tables and instructions for taking specific gravities, and for converting the degrees of different hydrometers into their several specific gravities, the use of urinometers, etc. The next chapter is explanatory of the Pharmacopœia and of its system of nomenclature, its variation from the London and other Pharmacopœas, etc. This closes the first or preliminary part of the work.

The next division of the work (Part 2d) is devoted to "Galenical Pharmacy," consisting of directions for the proper collection and desiccation of medicinal plants, for the operations of solution, filtration, maceration and the preparation of infusions, tinctures, medicated wines and vinegars, and the officinal and unofficinal preparations of opium. This portion of the work also contains many useful suggestions for the various applications of heat necessary in the numerous processes of pharmacy. Some of the contrivances are new to us, and the whole chapter must prove most valuable to the student. The preparation of extracts, syrups, conserves, lozenges, etc., with a chapter devoted entirely to distillation and the utensils required therein, comprises the balance of this division. Part 3d consists of the history of the pharmaceutical plants and the products derived therefrom that are made use of by the apothecary. Part 4th, of the inorganic pharmaceutical preparations, the two forming together a synopsis of organic and inorganic chemistry so far as is essential to the proper understanding and preparations of the various remedies that the apothecary is obliged to prepare himself, or which circumstances may prevent him from obtaining from the manufacturing chemist. In part 5th the extemporaneous preparation of prescriptions and other medicines is treated of at length, and every direction given that is required to enable the student to supply the deficiency resulting from want of actual practice behind the counter. The formulæ for numerous preparations, not officinal but in general family use, besides being constantly prescribed by the physician, are here arranged under their appropriate heads, and must render the book, we think, useful to every practitioner.

We regret that our limited space prevents a more detailed analysis of the work, we must therefore content ourselves with referring the practising physician as well as the student in

medicine or pharmacy to the work itself, believing that it will prove a most useful companion to every person who either prescribes or compounds medicines.

THE MEDICAL EXAMINER.

PHILADELPHIA, JANUARY, 1856.

MEDICAL NEWS.

THE CHILDREN'S HOSPITAL OF PHILADELPHIA.—We are pleased to notice the establishment of a hospital for sick children in our city, and under circumstances which augur well for its future success. It may seem strange to the medical profession in this country, but it is, we believe, not the less true, that this is, with one exception, the only effort that has yet been made in the United States to found an institution of this nature. The exceptional experiment, above alluded to, originated some years since with the late Amos Lawrence, Esq., of Boston, and if our memory serves us right, miscarried, or more properly speaking, was abandoned in consequence of an impression on the part of its benevolent founder, that the advantages accruing to the class for whose benefit it was designed, did not justify the large outlay required for its support. His hospital continued open for a few months, and was well filled with patients during the latter part of its career. Its failure was therefore more apparent than real, and resulted mainly from a want of previous knowledge on the part of Mr. L., of the difficulties which necessarily beset the infancy of these institutions, difficulties which disappear with increased experience and more enlarged accommodation.

The successful carrying out of an undertaking of this nature, requires unwearying kindness and patience on the part of those having charge of the sick, and a steady perseverance, in the teeth of much opposition from the prejudices of parents, who at first are unwilling to entrust their offspring to the care of strangers; but that this objection often so strongly urged, can be triumphantly met, is proved by the complete success of kindred institutions in Europe and Great Britain, where in some of the larger hospitals, as that of the "Hopital des Enfants," at Paris, 600 children can be accommodated.

The hospital located in Blight st., third door north of Lombard st., has been opened for a little over a fortnight. Its capacity is for 14 patients only, and these are to be received between the ages of 2 and 8 years. No contagious disorders for the present are to be taken into the house, but we understand that this very objectionable feature will be done away with in a few months and special accommodation provided for this class of patients. The ward arrangements are principally based on those of the Pennsylvania Hospital, with such modifications as are required for the peculiar wants of children.

We annex below a list of the Managers and Medical officers of the Hospital :—

George B. Wood, M. D.
M. D. Lewis,
Richard Wood,
Wm. R. Lejee,
John P. White,
Adolph Borie,
} *Managers.*
George Norris, M. D.
Benjamin Gerhard,
Heyward Drayton,
John H. Atwood,
Morton P. Henry,
Alexander Henry.

William E. Pepper,
John F. Meigs.
} *Consulting Physicians.*

T. Hewson Bache,
F. W. Lewis,
R. A. F. Penrose.
} *Attending Physicians.*

Coroners' Inquests.—At the last Annual Meeting of the American Association, held in the city of Philadelphia, the undersigned was appointed Chairman of a Committee, with Doctors D. Francis Condie, of Pennsylvania, and Grafton Tyler, of the District of Columbia, to report to the Association, what "measures should be adopted to remedy the evils existing in the present methods of holding 'coroners' inquests.'"

It is deemed very desirable and necessary, to obtain any data, such as the regulations in the various States and Territories of the United States, and also of foreign governments, relative to holding inquests, the tenure and qualifications of the office of coroner, the fees paid to medical experts, the various forms of procedure, and all other matter appertaining to this important subject.

Any facts, therefore, or cases of flagrant abuse or incompetence, coming under the observation of any member of the profession, or any suggestions, will be most thankfully received and duly acknowledged.

I am, respectfully, your obedient servant,

A. J. Semmes, M. D.
Chairman of Committee on Coroners' Inquests.
Washington, D. C.

The Stethoscope, a Virginian Medical Journal, has been discontinued, having been incorporated into the Virginia Medical and Surgical Journal.

ST. ANDREW'S SOCIETY, TRIBUTE OF RESPECT TO J. K. MITCHELL, M. D.—At a meeting of this Society, held at the United States Hotel, on the 31st of October last, Dr. J. K. MITCHELL, preparatory to the annual election of officers for 1855–6, called the attention of the Society to the declination of the Presidency, which he had offered a year before, and to the condition upon which he agreed to act as President for the year 1854–5, to wit, that at the present election his name should not be considered as before the Society for office. He stated that he was unwilling to hold any office, to the duties of which he did not give an active, personal and conscientious devotion and discharge; that the duties of the Presidency of St. Andrew's, thus attended to, were, so far onerous, as to interfere with his medical labors and Professorship. He asked therefore, as a favor to himself, to be allowed to decline this dignified situation which the Society had conferred upon him at the decease of the late President, Dr. Nathaniel Chapman.

The matter being on motion referred to a committee consisting of Messrs. John Rea, Thomas Dunlap, George Young and J. W. Wallace, to report upon, the following resolutions were reported, and on a subsequent evening unanimously adopted:—

Resolved, That the brethren of St. Andrew's Society, receive with sincere regret information from their President, Dr. J. K. MITCHELL, of his wish to decline the chief office of the Society, which he has filled for some years past to such eminent satisfaction of the Society, and so much to its advantage in increase of numbers, harmony and general welfare.

Resolved, That Dr. MITCHELL, having been prevailed on to accept the Presidency of the Society in 1854 only on condition, which he then expressed, that he might retire from it in 1855, and now urging the extent of his medical duties as a cause for retirement, that his resignation be accepted.

Resolved, That the affectionate wishes of the members of this brotherhood be offered to Dr. MITCHELL, for a long continuance of health, and of his present eminent professional usefulness, both in his large circle of medical practice, and in the dignified station from which his medical teachings are received with interest and instruction, by every part of our extensive land.

Resolved, That these resolutions be published in the papers of Philadelphia, and in the Medical Examiner, and that a copy, attested by the newly-elected President and the Secretary, be transmitted to Dr. MITCHELL.

THOMAS DUNLAP, *President.*
GEORGE YOUNG, *Secretary.*

United States Hotel, Nov. 21*st*, 1855.

THE USE OF CHLOROFORM IN EDINBURGH.—Professor Simpson states, that during the last six or seven years, few operations have been performed in Edinburgh, either in hospital or private practice, without the patient being previously anæsthetised with chloroform. During that period one death has occurred in the city, among the many thousands who have been subjected to the use of chloroform. But during the same six or seven years, among the comparatively few operated upon there without chloroform, three or four deaths have taken place, either during or immediately after the surgical operation. This statement, from such a source, is of great value.—*Medical Times.*

Dr. SOUTHWOOD SMITH has been giving a very important series of lectures in Edinburgh, on the subject of epidemics. Dr. Smith dwelt particularly, in his introductory lecture, on the fact that all epidemic diseases—the plague, black-death, sweating-sickness, cholera, influenza, &c., were fevers. Cholera was usually preceded, he stated, by influenza. In cholera, if the patient could be saved three days, the fever and other symptoms were curable. Dr. Southwood Smith seemed to say that very active animal and epidemic poisons were generated by over-crowding of human beings, and when to this were added deficient electricity in the atmosphere, unusual prevalence of mist, haze, or fog, stillness of the air, and augmented barometric pressure, then we had an epidemic constitution of things, and would have most probably cholera.—*Dublin Med. Press.*

ROYAL HOSPITAL FOR INCURABLES.—This establishment is progressing very favorably; this week eight candidates have been elected to the institution in addition to the twenty-two previously in the asylum. The annual meeting was presided over by Mr. Alderman Wire, who made the following judicious observations on the undertaking. He said "that the experiment had been very successful, and when they recollected the circumstances under which it arose, and that it was designed to alleviate the sorrows of those for whom no other institution was provided, they would see the absolute necessity of a speedy, extensive and generous effort in its behalf. Its funds ought to be at least three times what they at present were. We had splendid hospitals, and various institutions for different forms of human suffering; but, as this was the only asylum for those who were considered incurable, he thought it had a very strong claim upon their sympathy and support. Hundreds of cases were dismissed from our great hospitals as being incurable, and they were but too frequently persons belonging to that

class of society without the pecuniary means of alleviating their sufferings. Their maladies were such as medicine could not cure; but kindness and comfort would very much ameliorate their condition, though they could not effect a complete cure. Such was the class of persons for whose benefit this hospital was established, on account of which they now appealed to the benevolent public for pecuniary aid. The institution had gone on very vigorously hitherto, and he hoped that they would support it by every means in their power. There were no theological or political distinctions. The medical officers, and almost every other person, rendered gratuitous services. The entire salaries were but £91 8*s.* 8*d.* All the subscriptions, therefore, were devoted to the objects of the charity, instead of being largely absorbed in the salaries of officials. The income ought to be increased at least threefold, and he hoped it speedily would."—*London Lancet.*

[There is great need of such an Institution here, and, in fact, in each of our large cities. No express provision exists, that we are aware of, for such cases, in any part of the United States.—Ed. Ex.]

Anæsthetics in the Austrian Army.—A circular has just been issued, ordering that in future, the Army Medical officers shall always employ, for the purpose of inducing anæsthesia, a mixture consisting of one part chloroform and nine parts ether, this being the proportion long employed by Dr. Weiger, a Vienna Dentist.

Hospital for Consumption, London.—Since the opening of this Institution in 1846, 3,656 in-patients, and 29,265 out-patients have been treated.

Surgeon O'Callaghan of the 62d Foot.—The *London Gazette* of the 16th instant contains the following gratifying letter, dated Camp Sebastopol, October 22nd, from Major Daubeney, relative to the important services rendered by Staff Assistant Surgeon O'Callaghan, of the 62nd Regiment: "Sir,—In bringing to the notice of Major-General Windham, C. B., the names of the officers and men of the 62nd Regiment, who distinguished themselves at the assault of the Redan, on the 8th of September last, I omitted to mention the name of Staff Assistant-Surgeon O'Callaghan, who is attached to the 62nd Regiment. His attention to the wounded was not confined to men of his own regiment on that day, but was extended to officers and men of all regiments who happened to be brought past him; he accompanied

the regiment as far as the fifth parallel, and volunteered to remain behind after the regiment was ordered back to camp, to assist in attending to, and bringing in, the wounded from the front at dusk. Many officers have spoken in high terms of his conduct and exertions in behalf of the wounded on that day, requesting that his services may be brought to the notice of the Commander-in-Chief.

Adulteration of Food.—A correspondent of the *Times* says he avoided green pickles, fearing copper, but what was his surprise to find copper in tomata sauce. He sends the *Times* the label of the bottle, which says, "all articles in the Italian line of the first quality." He *naïvely* adds, the Italian line here spoken of must be that of Lucretia Borgia and Co. Another writer in the *Times* says, "the coloring matter of Cheshire cheeses alone costs £2250 per annum; this amount being thrown away on a mixture of turmeric, potash, soft soap, and train oil, with annatto."

Obituary.—We have heard with sincere regret, of the recent death of Dr. J. F. Peebles, of Petersburg, one of the editors of the Virginia Medical and Surgical Journal.

Correction.—In Prof. Hamilton's Report on "Deformities after Fractures," in the Transactions of the American Medical Association, on page 436, 19th line from the top, the word "able," should read "unable." The publishing committee are not responsible for the error.

RECORD OF MEDICAL SCIENCE.

On Cancer of the Pulmonary Artery. By Professor A. Wernher, of Giessen.

The following case of cancer of the pulmonary artery presents a degree of interest in reference to the question of the mode of propagation of cancerous affections:—

Case.—C——, a servant aged 22, placed himself under M. Wernher's care on the 22nd of January, 1853. In his childhood he had suffered from several cerebral affections. His present disease was of three months' standing, but he said he had often, during the last year, experienced, especially in dancing, painful sensations in the thigh and knee, which he attributed to chills.

In the preceding autumn he had had attacks of angina and of swelling of the calf of the left leg. After these symptoms subsided, a small tumour, hard and but slightly painful, and to which he paid little

attention, appeared at the inner side of the tibia. The tumour increasing rapidly, the patient made use of ointments and various other topical applications, but without success, for in the space of three months the swelling attained a considerable volume; two punctures had been made, but gave issue to nothing but blood; the tumour soon became painful, and the patient lost strength, and visibly emaciated.

On his admission into hospital the skin was hot and dry; the pulse small, from 120 to 140; his sleep was disturbed, being interrupted by pain; his appetite was good; the tongue was slightly loaded; there was some constipation; there was no enlargement of the liver; he had frequent attacks of epistaxis. From the time of his admission he had some cough, attended with dyspnœa and pain in a particular point at the left side. The left knee was bent almost at a right angle, and was nearly immoveable. The region below the condyles of the femur and the patella was occupied by a knobby tumour, the greatest circumference of which amounted to 99 centimetres (38.9 inches,) and which extended to the middle third of the tibia. The skin covering the tumor was tense and shining, covered with spots of a reddish yellow, and here and there exhibited varicose veins and networks of finer vessels; the temperature of this region was sensibly elevated. The tumour was elastic, hard in some parts, soft in others, particularly where the vessels were developed, but it presented no fluctuation. It was the seat of spontaneous shooting pains, particularly at night, and pressure also excited pain. The inguinal glands were scarcely swollen; no tumour was perceptible in the abdomen.

The tumour was considered to be a medullary fungus which should speedily prove fatal, and amputation was proposed, but was at first refused. However, the disease continuing to progress, the patient submitted to the operation, which was performed on the 7th of February, in the upper part of the thigh.

Some days before, the patient suddenly experienced a severe pain in the region of the heart, with dyspnœa and acceleration of the respiratory movements; subsequently, he had cough and bloody sputa, very rapid pulse, &c.

The frequency of the pulse diminished after the operation, as well as most of the symptoms; but the chest soon became more engaged, as was indicated by cough, dyspnœa, bloody, purulent, and fœtid sputa; miliary eruption, collapse, &c.

The patient died on the 24th of February.

The examination of the tumour showed, as had been diagnosed, a medullary fungus of the tibia.

The author gives a description of the elements of the tumour, with figures representing their form and disposition. The autopsy was performed seven hours after death.

The veins of the stump were perfectly healthy, and did not present the slightest trace of phlebitis.

The right lung exhibited in its middle part an enormous gangrenous abscess filled with a fœtid ichorous matter; another similar, but smaller, abscess was found in its inferior portion.

The rest of the parenchyma was healthy; but on incising it, little knotty cords, having the appearance of cancerous matter, were seen to protrude from the orifices of the vessels.

A preparation of the vessels of the lung, made with the greatest care, showed that these cords existed only in the pulmonary ramifications; nothing similar was found in the veins. The cords in question, which obstructed the bore of the vessels without adhering to their walls, were of a dull white color, nearly resembling that of half-boiled rice; knotty, gyrose, and transparent at the edges. Each of the stronger cords was composed of several others; these little cords were twisted, but separated easily without the aid of any instrument.

In the right lung all the ramifications of the artery, with few exceptions, were obstructed by these cancerous masses; there were fewer in the arteries of the left lung.

It was chiefly in the vicinity of the large abscess that the smallest vascular ramifications were completely stopped.

The points in which the cancerous matter had commenced to deposit could be observed; the smallest vessels which contained it were from a third to half a line in diameter; beyond that point they were gorged with blood; in this part they presented a sudden dilatation, and this, combined with their hardness, indicated the presence of the deposit.

The capillaries were entirely free; the same was true of the parenchyma of the lung beyond the vascular ramifications; no kind of tubercle was found in it.

Microscopic examination showed that the cords were composed of cells, analogous in their forms and dimensions to those of incipient cancer, being large and oval, with a single or double nucleus; on the surface of the cords were found caudate cells, arranged in several layers, and even forming an epithelium.

The same elements of cancer were found in the blood of the inferior cava, and in great quantity (oval or caudate, isolated or agglomerated.)

In no other part of the body, notwithstanding the most careful examination, could any purulent or cancerous deposit, or any abscess, be found.

This case is remarkable, chiefly because it shows the direct transfer of the cancerous matter, by the venous blood, to the very extremity of the vascular tree. No general cancerous infection existed; the cancerous cells, detached doubtless from the principal focus, had been conveyed with the blood and deposited in the branches of the pulmonary artery, and had there mechanically accumulated to such a degree as to obstruct these vessels. It is to this accumulation that we must attribute the symptoms of which the lung was the seat.

We must not, however, deduce from this particular case a general theory of the mode of transmission of cancerous affections, as the author appears disposed to do. It is certain that the elements of cancer must necessarily impart injurious qualities to the blood, and it is, in fact, this infected blood which, diffusing itself in all directions, finally produces new local affections.

Lastly, we would remark that the denomination of cancer of the

pulmonary artery given by the author does not appear to us to be accurate; he himself states that the cancerous masses were free in the vascular tubes; these latter consequently were not diseased, and it does not appear from the details of the autopsy, that they were altered in their proper tissue. We are therefore justified in considering the cancerous masses contained in the vessels as being derived from the primary focus and transported directly towards the extremities of the venous tree, and it is thus that the author himself regards them.—*Dublin Med. Press. from Gazette Mêdicale de Paris,* October 27, 1855.

On the Formation and Propagation of Cancerouz Cells in the Vicinity of Tumours of the same Nature. By M. SCHRODER VAN DER KOLK.

The author has studied with much care the mode of propagation of cancerous tumours, whether epithelial or otherwise, with the assistance, of course, of the microscope. He has obtained some results of practical importance, and which should not be lost sight of when the extirpation of cancerous tumours is in question. As the substance of his essay is pretty nearly recapitulated in a few propositions, we shall reproduce them *verbatim*:—

1. In consequence of nutritive interchanges between the cancer cells and the intercellular fluid, the latter acquires the property of producing new nuclei and new cells.

2. This intercellular fluid enters into communication with that which moistens the sound parts situated in the neighborhood of the tumour, and imparts to it the property of producing in its turn similar cells, which thenceforth appear in the tissues hitherto sound, diffusing themselves along the connective tissue.

3. The minuteness and small number of these new cells prevent the discovery of their presence by the naked eye, so much so that the organs contiguous to the tumour may appear to be perfectly sound, although they bear in them the germ of a new cancerous formation.

4. It is therefore important, not only to excise a tolerably large portion of the sound parts, but also to examine with the microscope the tissue which forms the edge of the wound, to see whether this tissue does not contain cancer cells in process of formation.

5. The existence of burning and lancinating pains in the carcinoma may be regarded as an indication of the propagation of the cancerous cells around the tumour to the neighboring nerves; in this case the disease can scarcely be considered as local, or the operation be attempted with any chance of success.

6. The absorption, by the lymphatics and by the veins, of the infected fluid, poisons, to a greater or less degree, the entire body, so that secondary cancers are produced at points far removed from the primary focus; in this case the question of operation could scarcely be any longer entertained.

7. This infected parenchymatous liquid penetrates into the tissues which it moistens, between the sarcolemma of the muscular fibres, the neurilemma of the nerves, &c. These latter investing tubes also absorb the fluid, so that cells may be produced in the interior even of the

sarcolemma and of the neurilemma, with the destruction of the muscular or nervous elements included in these membranes.—*Ibid, from Gazette Médicale de Paris,* October 27, 1855.

University of Edinburgh—Dr. Laycock.—We understand that Dr. Laycock has become the purchaser of the collection of pathological drawings belonging to the celebrated Dr. John Thompson, late Professor of Pathology in this University, and his son Dr. W. Thomson, late Professor of the Practice of Physic in the University of Glasgow. This collection consists of about 2500 delineations, more than one-half of which are original, unpublished colored representations of the morbid appearances and structures observed in various diseases. Nearly one-third of these were executed by the now Sir Robert Carswell, physician to the King of the Belgians; some from cases in this country; but the majority from cases occurring in the great hospitals of Paris, Lyons, Rome, and other continental cities, to which Mr. Carswell was sent by Dr. Thomson, accompanied by Dr. William Thomson. The remainder are by various artists of great experience and ability in the delineation of disease—such as Patrick Syme, Schethey McArtney, &c. The whole forms, we believe, the most valuable and extensive collection of pathological drawings in the world, and we are glad that this collection has once more returned to our University; and as it will be of immense advantage to several of our professors in the illustration of their courses, we hope that the Professors and Town Council, in the administration of the Reid Fund, will take care that this collection now becomes the property of the University, and not of any one professor. We can conceive no better application of part of the interest of this fund than to such a purpose.—*Daily Scotsman.*

On the Beneficial Effect of Creosote on Warty Excrescences. By Geo. Rainey, Esq., M. R. C. S., Lecturer on Anatomy and Demonstrator of Microscopical and Surgical Anatomy at St. Thomas's Hospital.

It occurred to me, about three years ago, whilst making some experiments on the effects of creosote in preventing and arresting cell-growth, in solutions of substances remarkable for their rapid development of fungi, that it might possibly be applied with advantage in that obstinate form of porrigo called "porrigo lupinosa," especially if taken internally at the same time. This idea I mentioned some time afterwards to Dr. Bristowe, assistant-physician to St. Thomas's Hospital, who thought it sufficiently feasible to deserve a trial, and accordingly he resolved to employ it in the next case of this complaint which came under his care. He has not, however, since met with a case of this disease; I therefore determined to try it in some other disease resulting from excessive or abnormal cell-development, and last summer I took the opportunity of trying its effect on an obstinate warty excrescence on the finger, which was spreading very fast, in which case its action was very decisive, and to all appearance specific.

In order to secure the full effect of the creosote on the disease, after applying it freely to the part, I prevented its removal by a piece of ad-

hesive plaster put several times round the finger, which was allowed to remain for two days. On removing the plaster, a visible change had taken place in the character of the surface of the excrescence, which now, in the place of being dry and hard, had become so soft and friable as to admit of being broken down by the slightest friction of the finger. The daily application of the creosote was, however, still continued until the remains of the wart had become of a horny consistence, after which, in about a fortnight, it desquamated, leaving the part beneath perfectly healthy.

The creosote, in this case, caused no pain or uneasiness, or any symptom which indicated an escharotic action on the affected part, but seemed to act entirely by destroying that excessive and abnormal cell-development which is the essential character of this form of disease.

In these excrescences there is what pathologists call hypertrophy of the epidermis. The epidermic cells also retain their nuclei and power of cell-growth longer than the normal epidermic cells of the stratum Malpighii of the surrounding parts; and the transformation of these cells into non-nucleated particles or scales, takes place irregularly and at no certain distance from the surface, as in the healthy epidermis. After a time the capillaries become enlarged, but this seems to be only the effect of the excessive and abnormal development of the cells which are dependent upon their contents for their supply of nutritive material.

As only one instance of the beneficial effects of this substance would be totally insufficient to establish its claim to be a specific, I asked Mr. Ord, the house-surgeon of St. Thomas's Hospital, if he would try its effects on some of the out-patients, as, if it did no good it could not possibly do harm, which he informs me he has done, with a satisfactory result. It is also with the view of further testing its efficacy that I have been induced to ask permission to insert the present communication in this widely-circulated periodical, hoping that, if any reader should think proper to try its effects upon the disease in question, he will give it a complete trial.

I may further add, that it seems to me no unreasonable inference, that if creosote is capable of destroying excessive or abnormal cell-growth in the dermic tissue, it may also do the same in analogous diseases of the mucous tissues, and therefore that it may possibly be applied with advantage in nasal and uterine polypi. In these cases I would not recommend it unless it could be kept in contact with the diseased part for a considerable length of time. I have even recommended a professional friend of mine, who has at this time a case of epithelial cancer under his care, to make a trial of it in this disease.

As this class of diseases, besides being distinguished by abnormal cell-growth of greater or less activity, is also attended with a disordered condition of the system, the local application of creosote would not of itself be likely to be of much service. In such cases it would require to be taken also internally, and probably to be persisted in for many months, according to the effect it might have upon the local disease or upon the general health. I may observe that I am by no means san-

cuine as to the beneficial effects of the remedy I am proposing in those diseases which are known by the term malignant. My expectations upon this point are far from rising to an extravagant elevation. I merely think from what I have seen of its action that it is just worthy of a fair trial, especially as these diseases are at present incurable, and as the remedy which I propose for their cure or relief, very different to many others employed for the same purpose, is incapable of doing any harm, should it fail to do any good. It is impossible for me to say how far creosote may have been used in the diseases for which I have proposed to employ it. I have not read of any case of the kind where it has been employed, and no one of the medical men that I have interrogated upon the subject knows of any instance of its employment in the same complaint, and with the same physiological view, as that I have advanced. About a month since I went to a medical man's house to ask him if he could furnish me with any cases of warts, &c., upon which he could employ creosote. A person not in the profession was present, who, hearing the conversation, said he had taken a little boy to a druggist's some time before to have something applied to a wart, which he believed was creosote, and which cured it. This is all that I have heard of the employment of this substance in any of the above named diseases.—*London Lancet.*

A large Calculus from the Female Bladder, which had Arrested Parturition, from a woman twenty-five years of age, who was confined with her first child in October. The accoucheur found a large tumour obstructing the passage of the head, and he was compelled to perform craniotomy in order to effect delivery. On examination, the tumour was found to be a vesical calculus, which had never previously been detected or suspected, although the patient had suffered from childhood from irritability of the bladder. She was sent up to Mr. Erichsen from the country three weeks after delivery. On examination, a large calculus was found bulging the posterior wall of the bladder into the vagina. The parts were very tender. She suffered the most excruciating and constant agony, and wished that the stone might at once be removed. She was kept in hospital for a few days, and then the calculus was cut out through the vagina, by the vesico-vaginal operation. The stone weighed five ounces and a half, and measured eight inches in the long and six in the short circumference. The patient went on well for about eight days, when she suddenly died exhausted. On post-mortem examination, extensive disease of the kidneys was found; the right was converted into a mere cyst, and the left was in a state of chronic pyelitis, with great dilatation of the ureter. The case is interesting—first, on account of the very large size of the stone; secondly, from its obstructing parturition, an occurrence of which he (Mr. Erichsen) had not been able to find another instance; thirdly, from the absence of symptoms of sufficient urgency to lead to its detection until after the parts had been dilated, and probably bruised, by the efforts during delivery.

In reply to a question from Mr. Holmes, whether there had been

any objection to the high operation, Mr. Erichsen said he had considered that, but preferred the vesico-vaginal operation, as being more likely to relieve the condition of the bladder in a shorter time, and secure a depending opening. He was afraid to submit the woman to any operation that would give inconvenience, as the lower fundus of the bladder was very irritable and thin.—*London Lancet.*

The Average Duration of Human Life in Various Countries and at Different Epochs.

In France a sixth of the population die at the end of the first year; a fifth at the end of 2 years; a third at the end of 14 years; the half at the end af 42 years; the three-fourths at the end of 69 years; the four-fifths at the end of 72 years, and the five-sixths at the end of 75 years.

Before 1789, Duvillard calculated that of 100 men, 50 live to 20 years; but since 1789 there is a marked improvement, and the observations of Bienaymé, from 1823 to 1831, prove that 60, and not 50, is the true proportion. Demontferrand says that of 100 men, 7 live to 80 years, 2 to 85, 1 to 89; and that in a million of our race there are only 640 nonagenarians (from 90 to 99 years.) Matthieu stated the number at 491, and of these only 9 reached the age of 97 years, and 4 that of 99.

Centenarians, according to Duvillard and Demontferrand, exist in the proportion of 2 in every 10,000. There are, however, privileged countries. Thus, at Carlisle, Milne found 9 in the 10,000. At most one dies in Paris every year.

Benoiston de Châteauneuf having examined 15 million lives, finds that 44 in 100 live to the age of 30; 23 to 60; 15 to 70; 4½ to 80, and 44-73ds to 90.

At present the average duration of life in France appears to be 39 years 8 months. Twenty years ago, Bienaymé valued it only at 36 years, and Demontferrand represented it at 33 years 8 months. In 1817 it was only 31 years 3 months; before 1789, according to Duvillard, 28 years 9 months; and Villermé has established that in Paris during the 18th century it was 32 years; in the 17th, 26 years, and only 17 years in the 14th century.

In France but one septagenarian is found among every 33 individuals; one octogenarian in every 160, and but one nonagenarian in 1900. Of these last there are nearly 17,500. Matthieu, however, computes that in every 174 persons there is one octogenarian, and one nonagenarian in every 1740.

At Geneva the average duration of life was 18 years 5 months in the 16th century: 23 years 4 months in the 17th, and from 32 to 33 years in the 18th; from 1815 to 1826, it has risen to 38 years 10 months.

At present in France, as we have seen, the average duration of life is 39 years 8 months, that is to say, on our birth we have before us 39 years and 8 months of probable existence; at 4 years, a period when all the favorable chances are united, we have 49 years 4 months; accord-

ing to Deparcieux, we have only 40 years and 3 months at 20 years of age; 34 years and 1 month at 30 years of age; 27 years 6 months at 40; 20 years 5 months at 50; 14 years and 3 months at 60; 8 years and 3 months at 70; 4 years and 8 months at 80; and 1 year and 9 months at 90.

In 1840 the average duration of life in England was 38 years; in France 36 years and a half; in Hanover, 35 years 4 months; in Schleswig-Holstein, 34 years 7 months; in Holland 34 years; in the Duchy of Baden, 32 years 9 months; at Naples, 31 years 7 months; in Prussia, 30 years 6 months; in Wurtemburg, 30 years, and 29 years in Saxony.

Demontferrand has divided into three classes the departments where life is the longest, and also those where it is briefest. In the first class, which is that of the longest livers, there are 28 departments: Calvados, Gers, Basses-Pyrénées, Cantal, Charente, Orne, Lot-et-Garonne, Lot, Maine-et-Loire, Aveyron, Gironde, Lozére, Deux-Sèvres, Manche, Tarn-et-Garonne, Doubs, Mayenne, Dordogne, Creuse, Loire-Inférieure, Eure, Vienne, Haute-Marne, Indre-et-Loire, Haute-Loire, Ariége, and Haute-Garonne. The average duration of life for example, is 44 years 7 months in the Calvados and the Lot-et-Garonne.

The second class contains 33 departments: Jura, Puy-de-Dôme, Vendée, Sarthe, Charente-Inférieure, Corse, Seine-et-Oise, Somme, Oise, Tarn, Seine-Inférieure, Corrèze, Eure-et-Loire, Côte-d'Or, Pas de-Calais, Ardennes, Aube, Marne, Drôme, Allier, Vosges, Ille-et-Vilaine, Isêre, Yonne, Var, Meurthe, Meuse, Aude, Laudes, Herault, Ain.

The third class comprehends the other 25 departments. In Finisterê and Pyrénées-Orientales, the average duration of life is only 28 years 2 months and 28 years 1 month. Females have the advantage; thus in every 100 of each sex, at 10 years there are 58 females and 53 males alive; at 20 years, 58 females and 48 males; at 50 years, 33 females and 30 men; at 60 years, 23 females and 23 males; at 70 years, 15 females and 13 males; at 80 years, 5 females and 4 males, according to Benoiston (de Châteauneuf); and although 17 boys are born for every 16 girls, the proportion is soon re-established; thus at the end of one year for every 1000 children of each sex there are 848 girls and 823 boys alive.

These observations, made with the greatest possible accuracy, are curious in the extreme, and from them the legitimate conclusion is drawn that the average duration of life in Europe, and especially in France, is increasing every year.—*Moniteur—quoted in the Gazette des Hôpitaux, July, 14th,* 1855.

Population and Mortality of England.

"Mr. Finlaison estimates the population of England for the close of the seventeenth century at about five millions and a quarter of *souls.* It is to be presumed that, in fixing this amount, he has not been hypercritical in the matter of psychological qualification, and that it may therefore be taken for granted that this number expresses the sum total of unfledged bodies which moved about upon two legs in the land of the

Angles at that time. At the middle of the nineteenth century, appointed enumerators found that the five millions and a-quarter had become, in round numbers, eighteen millions; that, in fact, the inhabitants of England (not taking Scotland into the account) had nearly quadrupled themselves in 150 years, besides sending countless crowds to people vast lands in the west and in the south. In the year 1851, it was found that London contained within its own precincts nearly half as many inhabitants as all the island held in 1701. On one memorable day—the 9th of October 1851, there were collected in a single hall erected in one of its parks, a 56th part of the full complement of English people that were alive in 1701. The Registrar-General has endeavored, in his report of the result of the recent census to furnish a definite idea as to what millions mean where population is concerned. He states that if every person living in Great Britain had only a square yard to stand upon, there would be still seven square miles of the crowd when all were collected together; or if every individual were planted out over the surface of the island, as cabbages are planted out in the best arranged market-gardens, each would be 103 yards away from his neighbors. Let the entire crowd of these animated cabbages be gathered from all the corners of the land, and be required to file through Temple Bar in a column of four deep, and moving at a quick marching step, it would take three months of twelve hour days (Sundays being allowed for rest) to get the entire living stream through; if a single individual were to undertake to pass them through a gate, as turnpike men do flocks of sheep, enumerating them at the rate of one every second as they went, he would be a year and a-half, working twelve hours a day (exclusively of Sundays) before he finished his task. Now, it has been ascertained that this vast mass of people is at the present time occupied with doubling itself every fifty-two years and a-half; so that if the same state of affairs were to continue without interruption or change until the year 2534, the inhabitants of Great Britain, instead of each having the space of 180 square yards to himself, would all touch each other by the elbows. There would be just standing room for all, but no one must think of moving. Britannia, with its eleven degrees of longitude and ten degrees of latitude, would then look from the ocean like a huge rock covered by its impenetrable crowd of penguins or boobies. Such, indeed, under these circumstances, would be the prospects of our favored land.

These considerations are surprising in themselves; but there is an important fact connected with them, that greatly enhances the wonder with which they are contemplated when it is brought prominently into view. This rapid augmentation in the ranks of the population has gone on, not only in despite of a constant emigration to foreign lands (more than two millions and a-half of individuals emigrated between the years 1821 and 1851,) but also in the face of the yet more serious drain from the operation of the ordinary conditions of mortality. More than 1000 people died every day in England and Wales during the year 1850.

Of the eleven millions who were alive in 1801, eight millions had passed to the silent tomb, before those eleven millions had multiplied

into twenty-one millions in 1851. Before the twenty-one millions can become forty-two millions, which they would do by 1904, under the present rate of increase, at least thirty millions will have been swept from the earth, by either premature or natural decay. By that time nineteen millions of British subjects will also have found a foreign home, even if the rate of migration does not increase with augmenting numbers. But emigrants double their ranks in considerable less time than half a century, on account of their consisting almost exclusively of individuals included within the reproductive periods of life. Hence, the nineteen millions British emigrants scattered over the world will be really more than thirty-eight millions in their new houses. If then, the existing state of things be continued without modification for another half-century, it may fairly be assumed that the twenty-one millions at present inhabiting our island will have changed themselves into a hundred millions of souls. In reality, it is known that this rate of multiplication does not take place over any large area of the earth, on account of various modifying and repressing influences that are continually at work. Thus, although the population of Great Britain nearly doubled itself in the half-century that preceded 1851, there was an absolute diminution of numbers in the year 1850, if taken alone. In that year the excess of births over deaths amounted to 224,000; but 280,000 emigrated during the same period. There were 56,000 more departures than arrivals; and the British field of human plants was therefore thinned out rather than thickened, in this interval. Still the abstract fact remains, that the real reproducing power of man in a state of civilization is expressed by a fivefold increase in half-century periods; at the lowest estimate, when every circumstance is favorable to the result, twenty millions made into a hundred millions, living and dead, may be taken to be a rude expression of the powers of human fertility.

The numbers in any population, where the births represent all arrivals, and the deaths all departures, must always be in a certain ascertainable ratio to the mean duration of individual life, taken in connection with the amount of the additions by birth in each year. The number of yearly births multiplied by the mean length of individual life in years, under such circumstances always gives the sum of the population. Thus, in 1851, when England and Wales contained eighteen millions of people, the births amounted to about 600,000; and accordingly the average duration of individual life would have been fifty years, if there had been no other drain upon the numbers than that produced by death ($600{,}000 \times 30 = 18$ millions). In reality, however, as the eighteen millions represented a result lowered by the drain of emigration, as well as by that of death, the true value of individual life was considerably higher. It is only under circumstances of great exposure to deleterious influences that the expectation of life sinks so low as this in England. In the worst managed workshops in London, where men of intemperate habits sit long in a close, impure atmosphere, the average duration of life does not rise above thirty-two years; but

in cities generally it reaches thirty-eight years, and in the open country, as high as fifty-eight years.—*Virg. Med. and Surg. Journal, from Mann's Philosophy of Reproduction.*

The Census of Canada.—The late census discloses some singular facts. In the United States it has been found—and it is similar in Canada—that under five years of age there are more males, by nearly 50,000, than females; then, between the ages of fifteen and twenty, the females outnumber the males to about the same extent. The tide turns again between the ages of thirty and forty, then the males outnumbered the females, in the year 1850, upwards of 160,000; and last scene of all, at seventy years of age the feminine gender is again in the ascendant. In Canada this remarkable ebbing and flowing of the sexual tide has been found to vary in a similar ratio, differing only in the figures, in proportion to the respective populations of the two countries.

Whether the same result is found in the old countries of Europe the report does not say; but it is not probable. Different circumstances there produce different results upon the population, as the following fact shows:—Of 42,000 families in Britain, each with a husband and wife at its head, it is found that 12,000 have no children at home; 8000 have but one; 7000 two; 5000 three; 4000 four; and so on, heads of families decreasing in numbers as the number of children increases. In opposition to this Canada shows a remarkable difference. Out of 42,000 families there, only about 4000 were without children with them, and so on in proportion between the numbers of families taken in the respective countries, large families being more plentiful in Canada than in Britain. The report accounts for this difference in several ways. One is, that emigrants to the country generally come out at a vigorous productive age, this reason seems valid. Another which he offers does not seem quite so much so; that is, early marriages in Canada. It is scarcely possible that these can prevail to a greater degree in Canada than in Great Britain. It is a well known fact that among the working classes of the three kingdoms early marriages prevail to a ruinous and deplorable extent.

Another singular fact which the report brings before us is the discrepancy in the number of births and deaths between the two provinces. In 1851, the births of Upper Canada were, leaving out the odd numbers, 32,000; while the deaths amounted to 7000, being something less than a fourth part of the births. In Lower Canada, during the same year, the births were in round numbers, 36,000; the deaths 11,000, nearly a third part of the number born, thus showing a heavier mortality in the lower province than in the upper. The report states that epidemics and children's complaints, such as hooping-cough, croup, etc., are much more fatal in Lower than in Upper Canada.

Not the least interesting item in the census is the return of the Indian population, these ancient lords of the forest. The report states their whole number in the two provinces to be 8728; but it says this is probably little over half their number, as it is known many of them live be-

yond the census limits. In support of this it is stated that Smith, in his work on Canada, enumerated them at 14,000 in 1842.

The most melancholy part of the report is that relating to the deaf and dumb, blind, and lunatic. Here, again, the lower province appears to disadvantage. The number of deaf and dumb in Lower Canada is 865; in the upper provinces it is little more than the half, 478. In Lower Canada there is one to every 1029 of the whole population; in Upper Canada there is one to every 1991 of the population; while the census of the United States shows a proportion even still less, they having one to every 2395 of the whole population.

Of lunatics Lower Canada has 5733, one to every 543 of the population; Upper Canada has 1069, one to every 380 of the whole inhabitants.

The number of inhabitants who had either reached or passed their hundredth year in Canada East, at the taking of the census, was thirty-eight, twenty females and eighteen males; only four out of the whole number were married, but twenty-three were widows and widowers; only eleven out of the whole having lived out their century in single blessedness, and of these eleven only three were males.

The report comprises some very interesting returns going to show the remarkable health of the Canadas. There were over 100 years of age in Upper Canada, fourteen males and nineteen females. Two males were respectively 115 and 120. Two females were each 106 and 114 Nor is the eastern province in any way behind in these instances of longevity, the return showing that there were twenty-two males over 100 years of age, and eighteen females.—*Edinburgh Med. Journal from Edin. News, Aug.* 11*th.*

Cholera in Lombardy.—The cholera has extended itself over the whole of Italy, and everywhere with destructive ravages. Upper and Middle Italy have chiefly suffered. In Lombardy, from the commencement of the epidemic up to the 19th of August, as to the provinces, and the 25th of August as to the city of Milan, the number affected has been 33,114; of whom 6832 are reported as cured, 15,366 as dead, and 10,916 as under treatment. In Brescia alone, the seizures have been 15,796; of which number the cures are 3596, the deaths 6949, and those remaining under treatment 5251. In the city of Milan the cases have been 295; of whom 40 cured, 182 dead, and 73 under treatment. A writer in the *Annali Universali di Medicina*, attributes the comparative paucity of cases at Milan to the excellent constitution, and admirable preventive measures of the Sanitary Commission of that city. It appears that this body consists of five members, of whom four are physicians. Thus science, directed by experience, guided their deliberations; which were at once productive of appliances, the essential fitness and promptitude of which were neither broken nor retarded by the delays of Bureaucracy. On the contrary, the execution followed instantly on the necessity; and the execution was rigorous, vigilant, and complete, because it was designed to be efficacious. On the other hand, in the provinces it was not the medical men who directed what was re-

quisite for the public health. There, the advice of the physicians, when not utterly rejected, was subjected to non-medical supervision, where the spirit of the prophylactic measures was not adequately comprehended; or, if understood, was ignorantly and inefficiently applied. The results of this are illustrated by several special instances, where medical directions were superseded or thwarted by the magistracy, to the prejudice of the zeal of the practitioners, and the detriment of the public safety.—*Edin. Med. Jour., from Omodei e Calderini, Annali Universali di Medicina, Milano, August* 1855.

Notes on the Physiological and Therapeutic Effects of the Chloride of Ammonium. By ALEXANDER LINDSAY, M. D.

It has been frequently remarked that our Materia Medica is sufficiently extended. Substances have doubtless been included amongst our medicines that perhaps ought not to have been accounted such. Yet it is as likely that many that have had a merely passing reputation —that have been named only to be left unheeded—may, nevertheless, not be so useless as their neglect would seem to indicate. How this should happen it is unnecessary to inquire. It is probable, however, that, in many cases, a lauded remedy is trusted, without, at the same time, attending to those general indications which an enlightened treatment would direct to be conjoined. This is no mere supposition; and thus it is that the therapeutic effect of even a useful medicine may be completely lost. In the treatment of chronic disease, the practitioner is often disappointed in the action of medicines, even with those that a large experience has shown to be useful. The causes that lead to this result are often difficult to discover. They may reside in the medicine; more frequently, however, they depend on peculiarities in the constitution of the patient. In such cases, a change of remedy is often attended with the happiest results, and hence the advantage of having at our command medicines whose actions are allied.

I have made these remarks preliminary to the urging on the notice of the profession an important medicinal agent, already included in our Materia Medica. I refer to the chloride of ammonium (NH_4), *muriate of ammonia*, or *sal ammoniac*, as it has been variously named. Internally it is seldom prescribed in British practice, although its external employment is not so rare. On the Continent it is otherwise. In France, but particularly in Germany, writers on the Materia Medica inform us that its internal administration is frequent. The knowledge of this fact induced me, some years since, to give it a trial, and since then I have recommended it to the attention of others. My experience of its advantages, conjoined with that of others who acted on my suggestion, have prompted the endeavor to secure for it a more general trial.

Iodine, bromine, and chlorine are readily distinguished the one from the other; yet, in some respects, they are physically allied, and they are so closely related chemically, that they have been grouped as a

family. Further, there is a marked similarity as regards the therapeutic effects of the salts, resulting from their union with metals. These considerations, coupled with the assumed nature of the basyl ammonium, would naturally lead to the conclusion that the action of the chloride, in diseased states, would be of a character similar and equal to others held in higher repute; my own experience of the salt has shown such to be the case.

It may be useful to refer briefly to the physiological actions of the medicine under consideration. A knowledge of these cannot, it is true, serve as a guide to its employment in disease, yet it will enable us to measure its influence on the system, and to conclude in a general manner as to its therapeutic action. For where a physiological change in any given case is not observed, but little alteration is to be expected in morbid conditions.

The information possessed regarding the actions of the chloride on the healthy body is very limited. Pereira's Elements of Materia Medica contains all I have been able to glean on the subject. The statements there, however, refer to large doses; that author remarks as follows:—Its local action is irritant. Its chemical influence is not very obvious. It dissolves mucus, but does not coagulate albumen. Weber tried the salt on himself. He took from ten to twenty grains for a dose, which he repeated at the end of an hour. The effects were a sensation of warmth and oppression in the stomach, headache, and increased desire for passing urine." So far as I am aware, the influence of medicinal doses, continued for a certain time in healthy individuals, has not been recorded. I was anxious to ascertain this, and have been aided in the inquiry by two intelligent pupils, who willingly agreed to subject themselves, along with me, to the action of the chloride. Daily, for a week previous to the experiment, the state of the appetite, the nature and amount of the food, the condition of the bowels, the frequency of the pulse, with the amount and density of the urinary secretions, were carefully noted. The medicine was then taken for a week, and similar observations recorded. The amount taken was in one case 18 grains per day, a second 13½ grains, and the third 9 grains. These quantities were divided into three equal doses, and were swallowed dissolved in two ounces of water. No comparison of the results was made till the observations were concluded. The following is a brief summary of these, from the notes now before me :—

On the second day after beginning the medicine, a buoyancy of the system was experienced that rendered ordinary pursuits a pleasure, and fitted body and mind for increased exertion. The uniformity of this result was the more remarkable as the experimenters represent types of the nervous, sanguineous, and lymphatic temperaments respectively. The feeling was least developed in the last. He employed the smallest dose. In all, the appetite was much improved. Where the smallest quantity of the salt was taken, the amount of food was doubled. The feculent discharges were in all much augmented. The mucous follicles of the intestinal tube seemed to be stimulated to a much increased secretion. In two, the force and frequency of the heart's action were

diminished. The rate of the pulse in the gentleman employing the smallest dose was accelerated. In all, the chloride increased the urinary secretion. It cannot, however, be classed as a renal hydragogue. The increase of fluid ranged from six to twelve ounces in the twenty-four hours. In the two cases, where the largest and smallest doses were used, it acted as a renal depurant, the excess of solids varying from 70 to 160 grains daily. In the other no change in this respect was noticed; but it may be necessary to remark, that the effect on the bowels appeared to be greatest in the individual making use of the medium dose.

The cases in which I have employed the chloride of ammonium in practice have been limited to chronic diseases, such as result from inflammatory action, or where there is a local ailment existing as the expression of a dyscrasial condition. Particularly, I have prescribed the salt in cases of chronic bronchitis, in enlargement of the lymphatic glands, whether resulting from scrofulous disease or dependent on a syphilitic taint, in chronic skin diseases, and in cases of chronic rheumatism.

The chloride has been, I may remark, exhibited also in acute diseases; in some forms of fever, and in the milder cases of pneumonia. Further, Dr. Watson, in his lectures, has testified as to its efficacy in certain forms of facial neuralgia; and Dr. Ebden, in the Indian Annals of Medical Science for April, 1854, states that it is a powerful and valuable remedy for the relief of neuralgic pain generally. He writes—"In facial neuralgia, tic douloureux, nervous headache and toothache, not excepting sciatica, and even in one case of neuralgic dysmenorrhœa, I have often given it, and been convinced, after a full trial, of its merits."

Of its therapeutic effects in acute diseases, I have no knowledge, nor have I prescribed it in neuralgic affections; but, from what I have seen of its physiological action in small doses, I can readily believe that the quantities prescribed by Dr. Ebden must have had an important influence.

I commenced the use of the salt in morbid conditions of the pulmonary mucous membrane, where the exuded (mucus) secretion was tough and tenacious. In such cases, its action was often remarkable, the exudate becoming speedily altered in quality and consistency. It has probably been from observing this effect that some have attributed to the chloride of ammonium qualities similar to the mercurial preparations. As liquefacients their influence is well known. On this account they are frequently employed. But in cases in which their use is contra-indicated, as frequently happens in chronic bronchitis, I can confidently recommend that their place be supplied by the preparation under consideration, certain that if the case be well chosen, the benefit will soon be apparent, and equally certain that no prejudicial result will follow its employment. In this respect it differs from the alkalies or their carbonates, the prolonged employment of these disordering the digestive and assimilative functions, and ultimately producing a condition similar to scurvy, the nutrition of the body generally becoming

impaired. It is very different with the chloride, its long-continued use never giving rise to symptoms of general cachexia. The testimony of many observers agree in this.

The efficiency of the ammonium salt, as a remedy in the cases noted, led me gradually to extend its use, and subsequent trials, frequently repeated, have shown that in cases of chronic rheumatism it often proves of great advantage. It is doubtless true we will be occasionally disappointed. This, however, happens often with our best remedies; but in those forms of rheumatic disease in which there is but little constitutional disturbance—those cases, in short, in which the iodide of potassium is found advantageous—the chloride may be given with every likelihood of benefit. In this affection, I have given the salt a very extended trial; but, in recommending its use, I need scarcely hint that it is not to be depended on to the exclusion of those secondary means —warmth, frictions, &c., that form a part of any treatment we may employ. I have also tried the chloride in periosteal inflammation of chronic character, and having a syphilitic origin. Here its advantagea are not so apparent, yet it seldom fails to give relief, and in cases wheres the iodide of potassium had ceased to exert any apparent influence on the disease, the substitution of the chloride has been followed by a rapid cure.

In enlargement of the lymphatic glands, I have not had such an experience of the use of the chloride as enables me to speak with confidence of its action. Yet more or less benefit will follow its prolonged employment. In that variety of bubo aptly designated Indolent, which so often exhausts all ordinary remedies, and frequently our patience, the use of the chloride often speedily effects its removal. I am in the habit here of applying it also externally. A strong solution being employed (℥ii. to the ℥i.), lint is soaked in this, applied to the swollen surface, and covered with oiled silk. In such cases, the general treatment must not be forgotten. The state of the bowels must be watched, and, if need be, corrected, the diet employed being nutritious. Carefully-applied pressure over the swelling is also a valuable auxiliary.

In another point of view, the chloride of ammonium has an advantage. It is cheap. This precludes the likelihood of intentional adulteration. Sometimes it is impregnated with iron, and, it is said, occasionally with lead. As regards the former, when present, it exists in such small quantity that it can in no way interfere with its action; and as regards the latter, any samples I have tested showed no evidence of its presence.

By writers on the Materia Medica, the dose of the chloride is stated to be from 5 to 30 grains. The quantity prescribed by me has varied from 5 to 10 grains, three or four times a day. Dr. Ebden, in the paper already noticed, states he employs from 25 to 35 grains in neuralgic affections, repeated at short intervals. I have never given the salt in such doses. His experience, however, accords with my own as to the effect on the system of the quantities I am in the habit of administering. This agreement was to me the more gratifying, as I was not aware of the existence of his paper till these remarks were nearly

completed, and it adds to the confidence I have in urging the medicine on professional attention.

The chloride of ammonium may be administered in simple or medicated waters. Where there is evidence of febrile disturbance, small doses of emetic tartar may be advantageously added. I frequently prescribe it with some bitter infusion, as quassia, cascarilla, gentian, &c. In cases where an anodyne may be necessary, the solution of the muriate of morphia may be conjoined in appropriate doses. It need scarcely be added, that the alkalies with their carbonates, as also the nitric and sulphuric acids, are incompatible.

The preceding observations have been limited to a mere narrative of observed results. Any endeavor to explain the nature of the influence exercised by the chloride over the organism has been carefully avoided. To judge of the action or effect of a medicine is always sufficiently difficult, without attempting to accomplish more. Even where the mind is least biassed, the accidental is often apt to be confounded with the essential, and antecedents linked with results with which they may be but very remotely related. This is not to be wondered at when we think on the very varied influences that combine to modify disease, and, as a necessary sequence, the actions of those agents we employ for its removal. Of disease we know nothing other than what is made known by symptoms and observed structural change, and of medicines only so much as they alter or modify these. Frequently the mind is not content with this, seeking to penetrate further, leaving the true field of observation, and attempting to grasp at what is placed far beyond mental reach. Thus it is that the science of therapeutics has not advanced with that steady onward step which has marked the progress of other departments of knowledge. The properties of matter are studied, the circumstances that modify these observed, and the information so acquired is applied to the purposes of life. The day is past in which it was sought to elicit its ultimate nature or essence. So ought it to be with medicines. Their actions, and the circumstances that modify these, should alone be investigated. The therapeutic power of the mercurial compounds is acknowledged, and every day applied to the treatment of disease; yet how little, how very little, of useful knowledge is to be gleaned by the study of the various hypotheses that have been offered to explain their action.

These remarks may be considered by some foreign to the subject of this paper. They will, however, serve to show why I have not saw fit to attempt to explain the *modus operandi* of the chloride. Of this I know nothing. I have seen its beneficial employment, and presume to think that, when in more general use, it will be assigned a position amongst our more valuable alterative, resolvent, and liquefacient remedies.

The following cases are appended in illustration of the effects of the salt. Numerous others might easily have been added:—

Jan. 25, 1855.—*J. W., hawker, aged* 45.—Has suffered from winter cough for many years. Four days ago was much exposed to wet, and since been unable to leave bed. When seen, skin hot, tongue

furred, urine scanty, and bowels constipated. Pulse 120. Severe cough; scanty expectoration, and complains much of a feeling of constriction of the chest. The stethoscope afforded the physical signs usual in bronchitis. Ordered him to be purged, afterwards to have *tart. antimon. et potassæ*, in nauseating doses, and a mustard poultice to chest.

Feb. 2d.—Feverish symptoms gone. Cough still very severe. Complains of great difficulty of getting up the expectoration, which is so tenacious that he has to withdraw it from the mouth by the fingers. Ordered a teaspoonful of the following mixture, four times a day, in water :—

℞	Chloridii Ammonii, - - -	ʒij.
	Sol. Mur. Morph., - - -	ʒiis.
	Syr. Simplicis, - - - -	ʒvj.
	Aq. Puræ, - - - -	ʒiv. Solve.

Within twenty-four hours a marked improvement began, which continued till the expectoration acquired an almost watery consistency. Ten days after he was in his ordinary health.

August 15, 1855.—*Mrs. G., aged* 66.—Has been complaining of cough for some weeks, with slight difficulty of breathing. Is able to move about for the greater part of the day, but complains of weakness and pain, referred to anterior and lower part of chest. Pulse 70. Expectoration scanty and tenacious. Bowels had been freely purged before I saw her. Dry mucous rales heard over upper part of chest. Ordered the foregoing mixture, without the solution of the muriate of morphia.

27*th.*—Has still a little cough. Sputa came up freely. Is gaining strength. Has now no pain in chest, and the appetite is much improved.

July 1, 1855.—Mrs.———, married, and has had four children. Contracted syphilis, six months ago, from her husband. Was mercurialized at the time by a surgeon in the country, and used afterwards, so far as I could learn, iodide of potass. She came under my care suffering from constitutional disease, manifesting itself on the skin, with sore throat and severe pains in the limbs. Her appearance was extremely unhealthy. Appetite nearly gone. Bowels disordered.

After touching the throat with the nitrate of silver, and attending to the bowels, she was ordered to sponge the body, night and morning, with a tepid saturated solution of common salt, and to have a teaspoonful of the following mixture three times a day :—

℞	Chloridii Ammonii, - -	ʒiiss.
	Acid-Hydro-Chlor., dil., - -	ʒiss.
	Aq. Puræ, - - -	ʒivss. Solve.

Shortly after beginning the medicine she began to improve, and at the end of four weeks all the symptoms had nearly disappeared.—*Glasgow Med. Jour.*

Abstract of Meteorological Observations for November, 1855, *made at Philadelphia, Pa. Latitude* 39° 57′ 28″ *N., Longitude* 75° 10′ 40″ *W. from Greenwich.* By PROF. JAMES A. KIRKPATRICK.

1855. November.	BAROMETER. Daily Mean	BAROMETER. Mean Daily Range.	THERMOM. Daily Mean	THERMOM. Mean Daily Range	Dew Point 2 P.M.	Force of Vapor 2 P.M.	Rel. Humid. 2 P.M.	Rain.	Prevailing Winds.	Remarks.
	Inches.	Inches.	Deg.	Deg.	Deg.	Inches.	Hunds.	Inch.	Points.	
1	29.866	.291	59.3	6.0	57.8	.479	.83		NE.	M. fog, ev. drizzling.
2	29.862	.101	60.0	2.0	57.0	.466	.78		NNE.	Cloudy; ev. *rain.*
3	29.933	.097	58.5	2.5	58.1	.484	.97	0.918	E.	*Raining* all day.
4	30.048	.115	53.8	4.7	51.4	.380	.76		NE.	Cl'dy; light drizzling *rain* all day.
5	30.199	.152	49.5	4.2	41.0	.257	.56		NE.	Cloudy.
6	30.101	.098	50.5	1.7	43.4	.282	.67		NE.	Cloudy.
7	29.996	.105	54.3	3.8	49.4	.352	.70		(Var.)	Cloudy.
8	29.971	.051	55.3	2.3	53.6	.412	.77		NE.	M. fog, cloudy.
9	30.202	.231	51.3	4.0	36.5	.216	.43		N.	Clear.
10	30.173	.048	51.8	2.5	43.5	.283	.56		NE.	Cl'dy. *Bar. highest* 30.228.
11	30.078	.095	56.8	5.0	51.1	.375	.59		NE.	M. fog, cloudy.
12	29.971	.106	55.2	3.7	54.2	.420	.94	0.333	NE.	Cloudy; ev. add night *rain.*
13	30.022	.118	58.2	3.3	43.6	.284	.51		NW.	M. cloudy; aft. & ev. clear.
14	3 .077	.073	50.7	5.2	42.3	.270	.50		NW.	Clear.
15	30.036	.041	54.3	3.7	41.0	.257	.43		(Var.)	Clear.
16	29.758	.278	57.7	3.3	54.6	.426	.64		SW.	Cloudy. *Therm. highest* 67°
17	29.931	.176	42.3	15.3	28.3	.155	.57	0.122	NE.	Cloudy; night *rain.*
18	29.969	.123	43.5	2.5	28.9	.159	.46		NW.	Aft. cloudy; m. & ev. clear.
19	30.057	.089	40.0	3.5	24.7	.133	.42		W.	lear.
20	30.208	.150	36.3	3.7	20.5	.110	.46		NW.	M. & aft. cloudy; ev. clear.
21	29.864	.344	40.8	4.5	41.8	.265	.91	0.593	(Var.)	Cloudy; m. *snow* 7 to 8, then *rain* to 5 P.M
22	30.108	.287	36.0	4.8	23.0	.123	.54		NW.	M. cl'dy, aft. and ev. clear.
23	29.839	.360	38.7	6.3	31.0	.173	.60		SW.	Cloudy. *Therm. lowest* 28°
24	29.942	.322	41.8	6.8	14.6	.084	.28		NW.	M. cl'dy; aft. and ev. clear.
25	29.864	.284	44.5	10.0	43.6	.284	.78	0.056	(Var.)	Cloudy; aft. *rain.*
26	29.617	.285	51.2	12.3	40.9	.256	.49		SW.	M. and aft. cl'dy; ev. clear.
27	29.715	.194	42.7	8.5	29.6	.164	,46		SW.	Clear;
28	29.386	.329	43.5	0.8	35.8	.210	.58		SW.	Cloudy; *Bar. lowest* 29.330.
29	29.637	.278	33.2	10.3	13.2	.079	.44		WNW.	M. cl'dy; aft. and ev. clear.
30	30.014	.376	36.7	8.7	27.7	.151	.52		(Var.)	Clear.
Means for Nov., 1855	29.948	.187	48.3	5.2	39.4	.266	.60	2.022	N. 64° 5′ W. 43-100.	
Means for Nov., 5 yrs.	29.954	.187	45.3	5.5	37.7		.60	3.463	N. 57° 35′ W. 41-100.	
Means for Aut'n. 1855	29.920	.151	57.9	5.5	49.0	.388	.61	9.567	N. 67° 53′ W. 38-100.	
Means for Aut'n. 5 yrs.	29.965	.151	56.8	5.5	48.4		61.	9.917	N. 73° 50′ W. 42-100.	

The Monthly Range of the Mercury in the Barometer was 0.898 of an inch, and in the Thermometer 39°.

CORRECTION.—In the Abstract for October, vol. xi., p. 762, the Mean Temperature of the month for 1855 should have been printed 55.2°, and the Mean Temperature of the month for five years, 56.7°.